REPORT

ON THE

MIGRATION OF BIRDS

IN THE

SPRING AND AUTUMN OF 1884.

BY

MR. J. A. HARVIE BROWN, MR. J. CORDEAUX,
MR. R. M. BARRINGTON, MR. G. A. MORE,
AND
MR. W. EAGLE CLARKE.

SIXTH REPORT.

(VOL. II., No. 1.)

"A good practical naturalist must be a good observer; and how many qualities are required to make up a good observer! Attention, patience, quickness to seize separate facts, discrimination to keep them unconfused, readiness to combine them, and rapidity and yet slowness of induction; above all, perfect fidelity, which can be seduced neither by the enticements of a favourite theory nor by the temptation to see a little more than actually happens in some passing drama."—*Essays, Bishop Wilberforce*, Vol. I.

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PREFACE.

The following Report contains a summary of investigations of the Committee re-appointed by the British Association for the Advancement of Science, at Montreal, Canada, in 1884, to consist of Professor Newton, Mr. J. A. Harvie Brown, Mr. John Cordeaux, Mr. W. Eagle Clarke, Mr. R. M. Barrington, and Mr. A. G. More, for the purpose of obtaining (with the consent of the Master and Elder Brethren of the Trinity House, the Commissioners of Northern Lights, and the Commissioners of Irish Lights) observations on the Migration of Birds at Lighthouses and Lightships, and of reporting on the same at Aberdeen in 1885. Mr. Cordeaux to be the Secretary.

The returns relating to Scotland have been arranged by Mr. J. A. Harvie Brown; for the East Coast of England, by Mr. Cordeaux; for the West Coast of England, by Mr. W. Eagle Clarke; and those for the Coasts of Ireland, by Mr. R. M. Barrington, Mr. A. G. More, and Mr. Eagle Clarke.

Having obtained an additional grant from the British Association, we venture this year to add a new feature to our Report in the form of a sketch-map, showing all the stations in *red*. We have done this at the intelligent request of several of our reporters; and the map has been executed for us by Messrs. Macfarlane & Erskine, of St. James' Square, Edinburgh.

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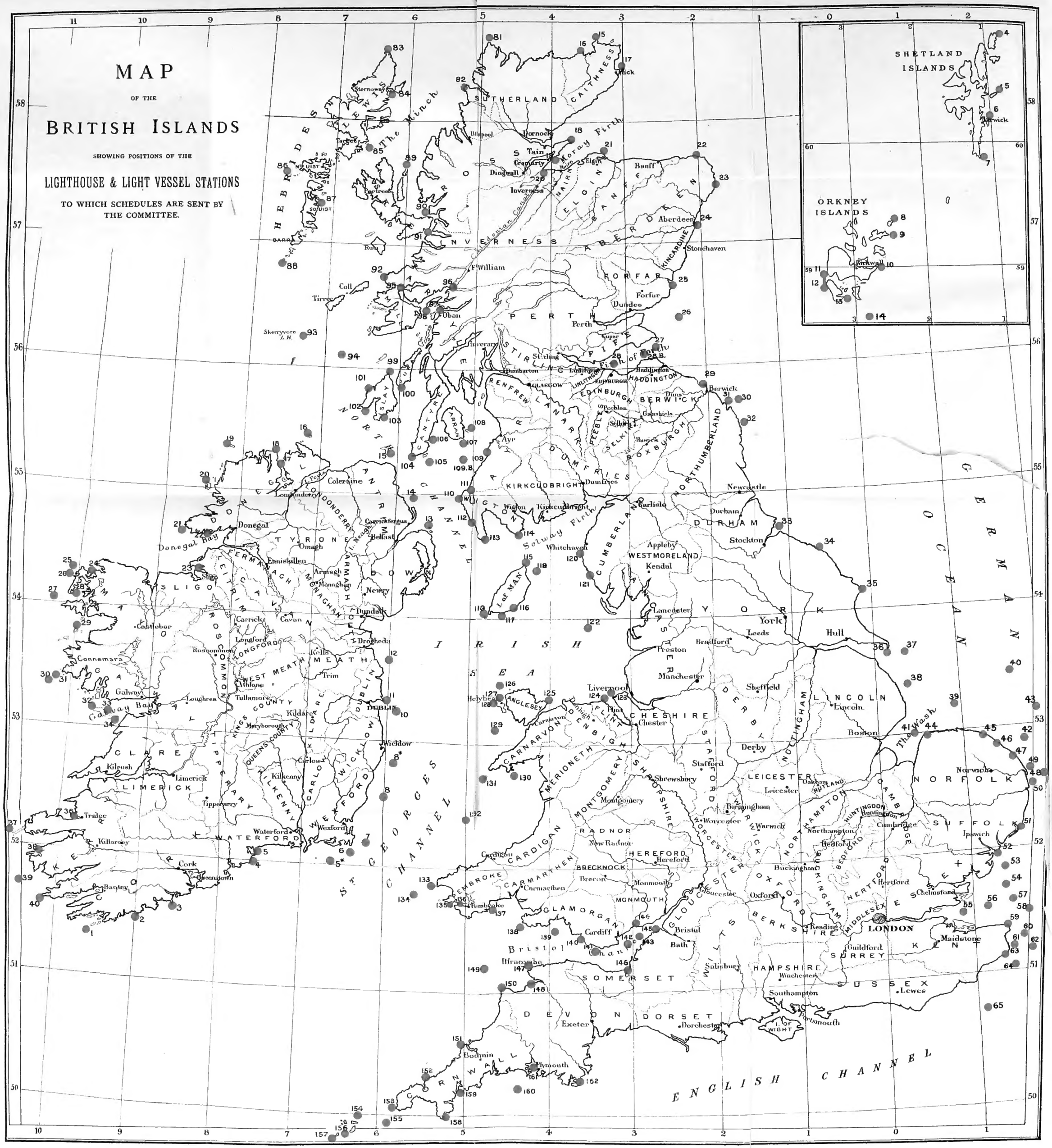
MAP
OF THE
BRITISH ISLANDS
SHOWING POSITIONS OF THE
LIGHTHOUSE & LIGHT VESSEL STATIONS
TO WHICH SCHEDULES ARE SENT BY
THE COMMITTEE.



58

62

51

50

LIST OF STATIONS.

1. **Iceland.**
2. **Do.**
3. **Faroe.**
3*b*. **Fair Isle.**

Scotland—East Coast.

4. N. Unst.
5. Whalsey Skerries.
6. Bressay Sound.
7. Sumburgh Head.
8. N. Ronaldshay.
9. Start Point.
10. Auskerry.
11. Hoy Sound (Low).
12. Hoy Sound (High).
13. Cantick Head.
14. Pentland Skerries.
15. Dunnet Head.
16. Holborn Head.
17. Noss Head.
18. Tarbet Ness.
19. Cromarty.
20. Chanonry Point.
21. Covesea Skerries.
22. Kinnaird Head.
23. Buchan Ness.
24. Girdleness.
25. Montroseness.
26. Bell Rock.
27. Isle of May.
28. Inchkeith.
28*b*. Fidra (1885).
29. St Abbs Head.

England—East Coast.

30. Longstone L.H.
31. Inner Farn L.H.
32. Coquet Island L.H.
33. 5 Buoy Tees L.V.
34. Whitby High L.H.
35. Flamborough Head L.H.
36. Spurn Point L.H.
37. Spurn L.V.
38. Inner Dowsing L.V.
39. Dudgeon L.V.
40. Outer Dowsing L.V.
41. Llyn Wells L.V.
42. Hasbro' L.V.
43. Leman and Ower L.V.
44. Hunstanton L.H.
45. Cromer L.H.
46. Hasbro' L.H.
47. Winterton L.H.
48. Newarp L.V.
49. Cockle L.V.
50. Corton L.V.
51. Orfordness L.H.
52. Languard Point L.H.
53. Shipwash L.V.
54. Swin Middle L.V.
55. Nore L.V.
56. Tongue L.V.
57. Kentish Knock L.V.
58 Galloper L.V.
59. North Foreland L.H.
60. North Sand Head L.V.
61. Gull L.V.
62. Eastside L.V.
63. South Foreland L.H.
64. South Sand Head L.V.
65. Varne L.V.

Scotland—West Coast.

81. Cape Wrath.
82. Rhu Stoir.
83. Butt of Lewis.
84. Stornoway.
85. Island Ghlais.
86. Monach Isles.
87. Ushenish.
88. Barra Head.
89. Rona.
90. Kyleakin.
91. Isle Ornsay.
92. Ardnamurchan.
93. Skerryvore and Hynish Signal Tower, Tiree.
94. Dhuheartach.
95. Sound of Mull.
96. Corran Ferry.
97. Lismore.
98. Fladda, Easdale.
99. Rhuvaal.
100. M'Arthur's Head.
101. Skervuile.
102. Rhinns of Islay.
103. Lochindaul.
104. Mull of Kintyre.
105. Sanda.
106. Devaar.
107. Pladda, Arran.
108. Lamlash.
109. Turnberry.
109*b*. Ailsa Craig (building, 1885).
110. Corsewall.
111. Loch Ryan.
112. Portpatrick.
113. Mull of Galloway.
114. Little Ross.

Isle of Man.

115. Point of Ayre.
116. Douglas Head.
117. Langness (1880).
118. Chickens Rock.

England—West Coast.

119. Bahama Bank L.V.
120. St Bees L.H.
121. Selker L.V.
122. Morecambe Bay L.V.
123. Dee L.V.
124. Air L.H.
125. Menai L.H.
126. Skerries L.H.
127. Holyhead Breakwater L.H.
128. South Stack L.H.
129. Carnarvon Bay L.V.
130. St Tudwalls L.H.
131. Bardsey Island L.H.
132. Cardigan Bay L.V.
133. South Bishop L.H.
134. Smalls L.H.
135. Great Castlehead L.H.
136. Milford L.H.
137. Caldy L.H.
138. Helwick L.V.
139. Scarweather L.V.
140. Nash L.H.
141. Breaksea L.V.
142. Flatholm L.H.
143. English and Welsh Grounds L.V.
144. Usk L.H.
145. Avon L.H.
146. Burnham L.H.
147. Bull Point L.H.
148. Bideford L.H.
149. Lundy L.H.
150. Hartland Point L.H.
151. Trevose Head L.H.
152. Godrevy L.H.
153. Longships L.H.
154. Sevenstones L.V.
155. Wolf-Rock L.H.
156. Scilly L.H.
157. Bishop's Rock L.H.
158. Lizard L.H.
159. Falmouth Harbour L.H.
160. Eddystone L.H.
161. Plymouth Breakwater L.H.
162. Start L.H.

Ireland.

1. Fastnet.
2. Galley Head.
3. Old Head, Kinsale.
4. Mine Head.
5. Dungarvan.
5*. Coningbeg Lt.-ship.
6. Barrels Rock Lt.-ship.
7. Tuskar.
8. Arklow S. Lt.-ship.
8*. Arklow N. Lt.-ship.
10. Kish Bank Lt.-ship.
11. Howth Baily.
12. Rockabill.
13. Copeland Island.
14. Maidens.
15. Rathlin.
16. Innishtrahull.
17. Dunree Head.
18. Lough Swilly.
19. Tory Island.
20. Aranmore.
21. Rathlin O'Birne.
22. Killybegs.
23. Oyster Island.
24. Broadhaven.
25. Eagle Island, E.
26. Eagle Island, W.
27. Blackrock, Mayo.
28. Blacksod Point.
29. Clare Island.
30. Slyne Head, N.
31. Slyne Head, S.
32. Arran Island, N.
33. Straw Island.
34. Arran Island, S.
36. Samphire Island.
37. Tearaght.
38. Valentia.
39. Skelligs.
40. Dursey Island.

Outlying Stations.

Heligoland.
Stevns Fyr, Zealand.
Malmo, Sweden.
Casquets L.H., Alderney.
Hanois L.H., Guernsey.

SIXTH REPORT:

ON

THE MIGRATION OF BIRDS

IN THE

SPRING AND AUTUMN OF 1884.

OCEAN NOTES.

THANKS again to Messrs. Gray and Anderson, I have some interesting items of migration to record, taken by the latter gentleman on board the steamship 'Marathon' in the Atlantic. These are best given *in extenso;* and land-notes will be given after the paragraphs on each species or group.

Steamship 'Marathon,' outward bound from Liverpool, April 16th, 1884.

April 17th.—A small bird came on board at 7 p.m., 15 miles from nearest land. (Position of ship at noon, Queenstown). Wind easterly for ten hours previous, and was increasing to moderate gale from E.N.E. when the bird was seen. From the description of this bird it can scarcely have been other than a Whinchat or Stonechat. No Petrels.*

April 18th.—At 7 p.m., another, precisely the same species as yesterday's, 310 miles from land; not caught. Eight Kittiwakes and four Manx Shearwaters. Wind light E. all day. (Position of ship at noon, lat. 51° N., long. 15° 47′ W.). No Petrels.

April 19th.—Two Kittiwakes all day, till 580 miles from land.

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* The lat. and long. give the ship's position at *noon* each day.

Little Auks* (?) seen frequently in parties of two to eight all day. Two Shearwaters, 600 miles from land. Lat. 60° 1′, long. 22° W.

April 20th.—At 8 a.m., one Manx Shearwater, 770 miles out. Several pairs of little Auks during forenoon. At 5 p.m., two Black-backed Common Shearwaters, 870 miles from land, outward bound. No Petrels.

April 21st. — At 7 a.m., two Common Shearwaters, 1090 miles from Fastnet. At 11.30 a.m., two Wilson's Petrels, 1145 miles out. Lat. 46° 37′, long. 36° 18′; calm. (*Note.*—Previous to this date the note was appended to each day's entry, "No Petrels.")

April 22nd.—At 8 a.m., one Wilson's Petrel (i. e., *Oceanites oceanicus*, Kuhl.), 1400 miles out from Fastnet; and one at 4 p.m., 1500 miles. At 7 p.m., two large Puffins† flying south. Wind light E. Lat. 44° 11′, long. 42° 22′.

April 23rd. — At 11 a.m., two black-looking birds, like Gulls (? Skuas) flying rapidly to N.E. During the day saw several specimens of the large sea-bird usually seen on the banks (of which we are now within sixty miles). [Probably from description the immature of some species of large Gull.—J. A. H. B.]. Numerous small parties of two or three of the Little Auk, and two large Puffins. From 6 to 7 p.m., saw numerous parties of ten to twelve of some kind of (apparently) Plover, flying south. No Petrels. Lat. 42° 28′., long. 43° 39′; wind light N.E.

April 24th.—At 7 a.m., three Black-footed Petrels,—Fork-tailed Petrel (*Thalassidroma leucorrhoa*),– and two Wilson's Petrels. At 5 p.m., one Little Auk and one Gull (yellow beak and legs), 700 miles from Boston at noon. Lat. 42° 24′, long. 55° 05′; wind light easterly.

April 25th.—At 8 a.m., six "Shore" Gulls and two Little Auks. At 5 p.m., one Skua. No Petrels. Lat. 42° 24′, long. 61° 21; calm.

April 26th. — Occasional Gulls all day. No Petrels. Wind light N.; 141 miles from Boston at noon.

Return Voyage of Steamship 'Marathon' from Boston, May 3rd.

May 3rd. — At 11 a.m., when 220 miles from Boston, one

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* Called "Little Puffins," size of Water Ouzel, in notes.

† Common Puffin, "Tammy Norie," *Fratercula arctica* (Linn.).

Common Swallow (by description a Martin.—J. A. H. B.) going west (!). Eight Black-footed Petrels; one Solan Goose, immature; numerous Gulls. At 6 a.m., apparently the same Solan Goose, twelve Wilson's Petrels, numerous Gulls, five Puffins, and two Little Auks. Lat. 42° 16′, long. 65° 58′; wind light W.

May 5th.—At 8.30 a.m., one Skua. Thirty to forty Wilson's Petrels all day. At 6 p.m., a couple of Gulls, and some Puffins. Lat. 42° 10′, long. 59° 56′; wind light to mod. W.

May 6th. — From 8 a.m. till dark, thirty Wilson's Petrels, two Little Auks, and one Gull. Lat. 42° 04′, long. 53°; wind mod. N.W.

May 7th. — All day, twenty Wilson's Petrels, and four Manx Shearwaters. Lat. 42° 56′, long. 46° 46′; wind fresh N.W.

May 8th. — At 8 a.m., one Black-footed Petrel (Fork-tailed Petrel probably, Wilson's being yellow-webbed between the toes—J. A. H. B.). Wind strong N.

May 9th. — At 8 a.m., five Terns flying N. At 8.30, twelve Terns resting on sea ahead, flew north. At 5 p.m., seven or eight Wilson's Petrels flying north, very tired-looking, and never heeded the ship. One "Black-footed Petrel" flying N. Lat. 47° 29°, long. 36° 09′; wind strong N.

May 10th. — Very numerous parties of Terns all day, flying north, three to twelve in number. At 9 a.m., one Skua, one Black-footed Petrel, and one Kittiwake. Lat. 49° 12′, long. 30° 04′, or 794 miles from Fastnet; wind strong to mod. N.

May 11th. — At 8 a.m., several parties of Terns, and three Skuas, all going north. At 8.30 a.m., one Kittiwake. At 5 p.m., three Kittiwakes. At 7 p.m., three Skuas circling about. No Petrels. Lat. 50° 31′, long, 23° 19′; wind mod. N.

May 12th. — At 8 a.m., sixteen Kittiwakes, 10 Wilson's Petrels, and four Manx Shearwaters. At 6 p.m., three Skuas, and two very dark hawk-looking birds, evidently in company, one very dark and the other had white vest and throat (Mr. Anderson's "Skuas" are probably Pomatorhine Skuas, and these last Richardson's Skuas.—J. A. H. B.). At 6.30 a flock of eighty or ninety Terns flying high and going N. and W., and circling frequently as if in doubt as to the proper course. They approached the ship from N.E., and were lost to sight astern, still undecided. One Puffin.

May 13th.—At 8 a.m., one (by description) Richardson's Skua

flew past, seaward, ten miles from Queenstown, at noon. No Petrels.

May 14th.—Only Gulls and Puffins.

The 'Marathon' is again advertised to sail for Boston on June 18th.

Cunard Royal Mail Steamship, 'Gallia.'

At a later date Mr. Anderson sends a note on Solan Geese:—"On Jan. 20th we passed numerous Solan Geese at Cape St. Vincent. They could not fly, and many had a hard job to flutter off on the surface sufficiently far to clear the ship. I saw one black one. The others were mostly white, with yellowish heads and greyish beaks. They all had the appearance of being fully fledged. One Robin stayed a day on board between Naples and Burriana, in Spain."

We suspect the regular appearance of Solans so far to the southward will turn out to be closely associated with the migrations of fish, possibly pilchards; and that, gorged with these fish, they were unable to rise off the water, this difficulty not arising from any state of moult in the bird's plumage.—J.A.H.B.

Union Steamship 'Athenian.'—First Voyage, 1884.

Thanks also to Mr. Spearman Swinburne, of Union Steamship 'Athenian,' I have several good schedules returned from two voyages—one in spring, between April 5th and 29th; and the second between Aug. 24th and Oct. 4th.

April 5th.—One Robin, one Yellowhammer, a flock of Jackdaws, three Lapwings, and one Crested Lark (*A. cristata*), between 7 a.m. and 2 p.m.; strong S.S.E.; v. c. r. The Robin alighted, so did the Yellowhammer. The Jackdaws were flying to eastward. The Lapwings followed the ship, and the Crested Lark alighted on board. The Robin and Yellowhammer were seen in lat. 53° N., long. 9° E.; the others in lat. 54° N., long. 10° E.

April 12th.—Seven Red-throated Divers, flying E.; one lot of three, the rest singly, all with white throats; 6 to 7 a.m.; light N.W., clear; off Schelling light-vessel.

April 20th.—One Wheatear, 2 p.m. till dark; light N.E., v. c.; alighted on board. Lat. 46° N., long. 8° W.

April 22nd. — Bulwer's Petrels, throughout the morning;

W., strong, v. c.; about nine or ten in all flying singly, generally against the wind. Lat. 34° N., long. 16° W. Also one "white-breasted" Petrel, at 7 a.m., same lat. and long., fluttering on surface. One Black Tern (in full black plumage); and on April 29th, Sooty Terns and Common Terns; a large flock at 9 a.m., wind light S., including with these species a dark species of Gull. Lat. 1° S., long. 13° W.

Remarks.—Oct. 19th, off Cape Point (Cape of Good Hope). Passed through numbers of Great Shearwaters, and continued seeing them up to Algoa Bay. This is the first time I have seen them on this coast, and they are not included among the birds of S. Africa. On our return, on November 2nd, we passed smaller numbers of them, chiefly flying to the S.W. Nov. 16th, off Bejouga Islands, observed a Skua in uniform brown plumage chasing two grey and white birds, apparently some kind of pigeon. While one bird was being attacked, the other would rise in the air and attack the Skua in turn, and this continued till I lost sight of them. The same day, at 1 p.m., saw what looked like land; on approach turned out to be enormous flocks of sea-birds feeding and moving to the N.E. Those we saw afterwards were nearly all Greater Shearwaters.

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* Or Falcon (?).—J. A. H. B.

Migratory Birds seen at Sea.—Dec. 18th, 1884, to Feb. 17th, 1885.

Date.	Lat.	Long.	Wind.	Weather.	Birds.	Remarks.
Dec. 19	Plymouth	Sound.				
,, 29	6° 45′ N.	15° 16′ W.	N.E., 2	b. c.	1 Hoopoe.	Flying about ship; alighted.
,, 30	2° 31′ N.	12° 16′ W.	Vble.	b. c.	1 Black Tern.	Close to ship.
,, 31	1° 43′ S.	9° 30′ W.	S.E., 2	b.	Sooty Terns.	A large flock.
,, ,,	1° 43′ S.	9° 30′ W.	S.E., 2	b.	Black Terns.	Several.
1885.						
Feb. 3	9° 23′ S.	3° 22′ W.	S.E., 1, 2	b. c.	Sooty Tern.	1.
,, 4	4° 54′ S.	6° 44′ W.	S.S.E., 2	b.	Black Tern.	1.
,, 6	3° 54′ N.	13° 18′ W.	S.S.E., 2	b. c.	Black Tern.	1.
,, 9	18° 03′ N.	17° 36′ W.	N.E., 4	b.	Grey Phalarope.	Small flock flying N.
,, 10	22° 56′ N.	16° 56′ W.	N.E., 3, 4	b.	2 Terns (Common Arctic).	
,, ,,	22° 56′ N.	16° 56′ W.	N.E., 3, 4	b.	Grey Phalarope.	A flock flying N.; some [swimming.

(Signed) S. Swinburne.

Steamship 'Athenian.' — Second Voyage, 1884.

Date.	Number, Name, or Species of Bird.	Time when seen.	Force, and Direction of Wind.	Weather, Clear or Fog, Rain or Snow, &c.	Ship's Position at Noon. Lat.	Ship's Position at Noon. Long.	General Observations.
Aug. 24	3 Curlews	7 a.m.	Ely., Vble., 1 to 4	o. c. r.	11° 25′ N.	17° 28′ W.	Flying E.
,, ,,	3 Curlews	7.30 to 8 a.m.	Ely., Vble., 1 to 4	o. c. r.	11° 25′ N.	17° 28′ W.	2 flew round the ship for ½ hour, when they were [joined by another, and flew S.W.
,, ,,	4 Sandpipers (Common).. ..	7 to 9 a.m.	Ely., Vble., 1 to 4	o. c. r.	11° 25′ N.	17° 28′ W.	Flying E.
,, 25	1 Yellowhammer	9.30 a.m.	E., 4	b. c.	16° 19′ N.	17° 33′ W.	Alighted on board.
,, 26	1 Sandpiper (Common)	Noon.	N.E., 3 to 4	b. c.	21° 01′ N.	17° 21′ W.	Flying E.
,, 27	1 Sandpiper (Common)	9 a.m.	N.E., 4 to 5	b. c.	25° 20′ N.	16° 53′ W.	Flying E.
,, 31	23 Curlews	5.30 p.m.	N.W., 3	b.	41° 16′ N.	10° 44′ W.	A flock flying S.
Sept. 2	1 Sandpiper	7 a.m.	W., 1 to 2	b. c.	49° 00′ N.	7° 00′ W.	Markings very bright; not common [species.
,, 14	1 Rook (or Carrion Crow) ..	6 a.m.	E., 4	b. c.	52° 31′ N.	3° 30′ E.	Flying E.
,, ,,	2 Small birds	9 a.m.	E., 4	b. c.	52° 31′ N.	3° 30′ E.	Flying E.
,, ,,	4 Sandpipers	5.30 p.m.	E., 4	b. c.	62° 31′ N.	3° 30′ E.	Flying E.
,, ,,	Several small birds heard about the ship during the night.						
,, ,,	3 flocks of Scoters	7 a.m.	E.S.E., 4	b.	Off Heligoland.		Flying S.
,, ,,	1 Skylark	7 a.m.	E.S.E., 4	b.	Off Heligoland.		Flying S.E.
,, ,,	4 Starlings	8 a.m.	E.S.E., 4	b.	Off Nieuwarke.		Flying E.
,, ,,	1 large flock of birds	8 a.m.	E.S.E., 4	b.	Off Nieuwarke.		Flying E.
,, 19	1 Wheatear	8 a.m.	N., 2	c.	Off Terschelling Lt.Sh.		Flying E.
,, ,,	Several birds (prob. Wheatears)	8 a.m.	N., 2	c.	Off Terschelling Lt.Sh.		Flying E.
,, ,,	1 Rock Pigeon	10 a.m.	N.N.E., 2	c.	18 miles S.W. of do.		Flying E.
,, 28	1 Hobby	6 p.m.	N.W., 3	b. c.	41° 53′ N.	11° 06′ W.	Flying S.
Oct. 2	2 Black Terns	7 a.m.	N.E., 5	c.	22° 59′ N.	17° 34′ W.	Black plumage.
,, ,,	1 Swallow..	4 p.m.	N.E., 4 to 3	b. c.	22° 59′ N.	17° 34′ W.	Flying about ship.
,, 3	1 Swallow..	7 a.m.	Nly., 1 to 2	b.	17° 32′ N.	17° 54′ W.	Flying S.E.
,, ,,	1 Wagtail	5 p.m.	W.N.W., 2	b.	17° 32′ N.	17° 54′ W.	A greyish species.
,, ,,	1 Black-chested Grass Warbler	5 p.m.	W.N.W., 2	b.	17° 32′ N.	17° 54′ W.	Alighted on board.
,, 4	3 Black Terns	8 a.m.	Variable, 1	b.	12° 19′ N.	17° 30′ W.	
,,	Several flocks of Terns seen at times.		Variable, 1	b.	12° 19′ N.	17° 30′ W.	
,, ,,	1 Curlew	9 a.m.	Variable, 1	b.	12° 19′ N.	17° 30′ W.	Flying W.
,, ,,	1 Turnstone	9 a.m.	Calm	b.	12° 19′ N.	17° 30′ W.	Flying round ship.
,, ,,	3 Swallows	4 to 6 p.m.	Calm	b. m.	12° 19′ N.	17° 30′ W.	One caught on board.
,, 5	1 Swallow..	6 p.m.	S.S.W., 2	b. c.	7° 40′ N.	15° 18′ W.	
Nov. 16	2 Pigeons (?)	8 a.m.	N.W., 2	c. r.	12° 47′ N.	17° 50′ W.	Plumage grey, white.
,, ,,	1 Pigeon	9 a.m.	N.W., 3	c. r.	12° 47′ N.	17° 50′ W.	Similar to Blue Rock.
,, ,,	Sandpiper..	9 to 10 a.m.	N.W., 3	c. r.	12° 47′ N.	17° 50′ W.	
,, ,,	Small bird	1 p.m.	N.W., 3	c. r.	12° 47′ N.	17° 50′ W.	Alighted on board.
,, 21	1 Snipe	—	N.E., 4	c.	35° 35′ N.	15° 20′ W.	Flying round ship.
,, 24	Small bird	—	N.N.W., 3	b. c.	47° 33′ N.	7° 37′ W.	

Thanks to Mr. T. Southwell, of Norwich, I have the following returns from the Polar Seas:—

Voyage of Steamship 'Eclipse' in Polar Seas, from the Log of Capt. David Gray.

The 'Eclipse' left Peterhead on Feb. 28th, 1884, and Lerwick on March 12th. On that day Bottlenose Whales were seen hurrying northward, as well as a few "Mallemauks." Lat. at noon 60° 25′ N., long. 0° 41′ W.; wind true S.; force 4 *; temp. of air 42°, of sea 44°. At 8 p.m., temp. of water 47°.

March 14th. — Lat. at noon, 66° 4′ N., d. r., long. 3° 50′ W., d. r. South. Force 9. Temp. of air 42°, of water 40°. Numbers of "Mallemauks," and one or two "Looms."

March 17th. — Noon. Lat. 72° 23′ N. d. r., long. 5° 44′ W. d. r. E. ½ N. Force 5. Temp. of air 25°, of water 29°. Made the ice at 11.30 a.m. Slight sludge. Saw several "Snow Birds" (Ivory Gulls), as well as a flock or two of "Rotges" (Little Auks).

March 20th.—Noon. Lat. 73° 0′ N. d. r., long. 5° 30′ W. d. r. N. 6 E. ½ E.; force 10. Temp. of air 20°, of water 29°. Young ice. "Snow Birds" and "Burgomasters" were flying N.N.E., which was significant, as these birds are always present in vast numbers where a large herd of seals is.

April 25th.—Noon. Lat. 73° 28′ N., long. 2° 50′ E.; S. ½ W.; force 5; temp. of air 36°, of water 29·5°. We passed through the sealing grounds (where on the 4th to 7th the young brood of seals had been killed. Many crangs [skinless bodies of the young seals] covered with snow were still visible, and around them flocked myriads of "Snow-birds" and "Burgomasters."

April 26th.—Noon. Lat. 73° 25′ N., long. 5° 6′ E.; N.N.W.; force 4; temp. of air, 24°, of water 29°. Saw many flocks of Eider Ducks going N.E.; and "Mallemauks" numerous.

April 27th.—Noon. Lat. 74° 15′ N., 4° 30 E.; W.N.W.; force 4; temp. of air, 17·5°, of water 29°; at the pack-edge. Several "schools" of old Saddle-back Seals seen going N.E.; and "Rotges," "Looms," and "Dovekies" also on their northward journey.

May 3rd. — Noon. Lat. 78° 36′ N., long. 1° 13′ E.; N.E. by

* The strength of the wind is according to Beaufort scale.—D. G.

N.; force 8; temp. of air 15°, of water 29°; at the pack-edge. "Rotges" very numerous to-day and yesterday.

May 9th.—Noon. Lat. 78° 35′ N., long. 0° 10′ W.; W. ½ S.; force 3; temp. of air 24°, of water 30·5°; among floes. At five o'clock got into a large water surrounded with floes. A few "Unicorns" were sporting about in the still water; flocks of "Rotchies" and "Looms" were flying hither and thither, and some were swimming about engaged in diving for "whales'-food," upon which they subsist. A bear or two seen on the floe.

May 12th.—Noon. Lat. 78° 47′ N., long. 2° 41′ E.; N.N.W.; force 2; temp. of air 18°, of water 29; among floes. Got into the land-water of Spitzbergen. Saw many "Mallemauks."

May 15th. — Noon. Lat. 79° 20′ N., long. 2° 55′ E.; S.E.; force 3; temp. of air 26·5°, of water 29·5°; at pack-edge. A few "Unicorns" seen; and a Hawk came on board, apparently dying of hunger.

May 16th.—The Hawk seemed to be recovering, but on May 17th fell overboard and was drowned.

May 27th.—Noon. Lat. 77° 40′ N., long. 3° 20′ E.; S. ½ W.; force 6; temp. of air 27°, of water 31° The water is very rich with "whales' food"; "Unicorns" are numerous, and birds in thousands.

June 6th.—Noon. Lat. 77° 53′ N., 4° 25′ W.; temp. of air 35°, of water 31°. "Whales' food" abundant, and birds numerous. A few "Unicorns" seen, and one bear.

June 7th. — Noon. Lat. 77° 57′ N., 4° 52′ W.; N.W. ½ W.; force 1; temp. of air 36°, of water 33·5°; floes and loose ice. Narwhals have been numerous; also birds, chiefly "Rotchies"; and one or two bears.

June 10th.—Noon. Lat. 78° 3′ N., long. 0° 24′ W.; S.W. by S. ½ S.; force 3; temp. of air 33°, of water 33·5°. Many birds. Quantities of whales blowing, and greasy water. "Rotchies," "Looms," and Narwhals numerous.

June 11th.—Noon. Lat. 73° 38′ N., long. 0° 4′ E.; S. ½ W.; force 3; temp. of air 35°, of water 35°. Birds and Seals numerous; a few "Unicorns" seen; and some bears in sight at 12 p.m.

Steamship 'Persia.'

Mr. John S. Alston writes under date of November 4th, 1884, —a date as will be noted correlating with date of a great rush on

our E. Coast of Britain (J. A. H. B.),—as follows:—"We hope to make Port Said to-morrow, after a very fair run all the way from home. During the last three days we have been visited by more little birds than I ever saw before at sea. So far as I can judge, they were mostly Finches; but we saw two Quails and, of all birds in the world, a Robin-redbreast, who most characteristically seemed quite at home; and when he was frightened by a Hawk, which was in close pursuit of this flock of birds, Robin quietly hopped down the "companion" into the engineers' quarters. I had seen another Robin off Tarifa, the southern point of Europe, but I was much struck to see this little fellow come on board flying due south, the nearest land being Cape Matapan, hundreds of miles away. Of course he may have been blown off shore by a northerly gale, but when we met him he was flying against a southerly breeze. The Hawk followed these birds, hovering about the ship all day, but took his departure in the night. He was a small one—a Merlin, I think."—(Signed) JOHN S. ALSTON.

EAST COAST OF SCOTLAND.

The usual schedules were distributed to thirty stations on the East Coast of Scotland, Faroe, and Iceland. Twelve stations on East Coast of Scotland have sent in forty-one schedules out of the twenty-eight stations, including Faroe and Iceland.

From the Isle of May we have, as usual, the heaviest returns—fourteen schedules in all. Pentland Skerries again comes second with twelve schedules, and Bell Rock is the next in weight of returns.

In the following List of Stations, we indicate in Arabic type the number of years in which each station has returned records, and the consecutive numbers of the stations, as these coincide with those on the map. Hitherto we have indicated by asterisks, under each year as a heading, these particulars of returns, but after the fifth year these become cumbrous, occupying too much room. This year's returns, however, will again be indicated by asterisks. As will be seen below in an analysis of the returns for the past six years (see General Remarks end of W. C. of Scotland), the character of the lights at each station appears to have considerable influence on the bulking of records, the *white-fixed-lights* having the largest as a rule. We mark in the list of stations therefore their different values as migration stations. The numerals indicate the true *migration values*, though the class of light may not *always* correspond; and it remains to be seen if their character be kept up in the future. These are indicated by the following Roman numerals:—

First Class.—I., usually *fixed white lights*, but may be otherwise, if the situation is particularly favourable, as in the case of Bell Rock (see below).

Second Class.—II., usually white-revolving, also intermittent.

Third Class.—III., white and red revolving

Fourth Class.—IV., white flash, and red and white sectors.

Fifth Class.—V., bad situation, or exposure, combined with other disadvantages; *red fixed*; landlocked. All considerations bad.

EAST OF SCOTLAND.

Returns in 5 years.	1884.				Feet.	
		Shetland.				
3	*	4. North Unst, Shetland	IV.		230	T. Edgar.
3		5. Whalsey Skerries, Shetland	II.		143	
1		6. Bressay, Shetland	III.		105	
5	*	7. Sumburgh Head, Shetland.	I.		303	D. M. Scott.
		Orkney.				
4	*	8. N. Ronaldshay	IV.		180	
		9. Start Point	V.		80	
5		10. Auskerry	I.		110	
		11. Hoy Sound (Low)	V.	(*a*)	55	
		12. Hoy Sound (High)	V.		115	
		13. Cantick Head	III.		115	
5	*	14. Pentland Skerries	I.		170	J. Gilmour.
5	*	15. Dunnet Head	V.	(*a*)	346	
		Mainland.				
		16. Holborn Head, Caithness.	V.		75	
1		17. Noss Head, Caithness ...	V.	(*a*)	175	
		18. Tarbat Ness, East Ross ...	V.	(*a*)	175	R. S. Ritson.
3	*	19. Cromarty, East Cromarty.	V.		60	John McGill.
2	*	20. Chanonry Point, Elgin ...	V.		40	
1		21. Covesea Skerries, Elgin...	V.		160	
	*	22. Kinnaird Head, Aberdeen.	V.		120	
		23. Buchan Ness, Aberdeen ...	V.		130	
1	*	24. Girdleness, Aberdeen	V.		185	
		25. Montroseness, Forfar	V.		124	
5	*	26. Bell Rock, Fife	I.		93	James Jack.
5	*	27. Isle of May, Firth of Forth.	I.		240	Jos. Agnew.
4	*	28. Inch Keith, Firth of Forth.	IV.		220	R. Grierson.
		29. St. Abbs Head, Berwick...	V.		224	

NOTE.—Read in this place part of the General Remarks at the end of West Coast of Scotland.

(*a*) Notwithstanding the favourable description of light.

Diary from the Stations.

N. Unst.—Mr. James Edgar—formerly at Butt of Lewis—has sent useful schedules embracing from Feb. 15th to 21st Sep. and to Nov. 28th. "We have plenty of Ravens and Hooded Crows all the year, therefore I only notice uncommon flocks." "One pair of Hoodies, which has been about the rock for years, attends regularly at dinner time (1 p.m.) to eat up scraps. Their right is sometimes disputed by a half-tame Sea Gull. I had a good opportunity of examining 'Jenny Wren' this season. She remained for a fortnight."—*In lit.*

Sumburgh Head.—The old natives say they never before have seen such vast numbers of Gulls as during this year, around this station all the season onward from 8th March, 1884.*

N. Ronaldshay.—Mr. John Tulloch sent one schedule embracing the whole season from July 5th to Sept. 21st. I did not receive this till the first week in March. In future I would always like to have schedules returned immediately after last day of January, or as soon as possible after that date, as it is more difficult to work in stray schedules after the Report is written out.

Pentland Skerries.—Mr. J. Gilmour was called away from August 13th till Sept. 1st on a Board of Trade inquiry. During that interval a Solan Goose struck the Lantern Dome, and was found, but not killed ("this is very unusual"). A few Wheatears and one Goldcrest were seen also, during this interval. Gulls (a pair) bred on the island—a very unusual circumstance.

Easterly and southerly winds prevailed from March 10th to April 12th, with occasional S.W., varying to N.; 12th to 19th, N.E., fresh; 19th to May 4th, again S.E. and E., and N. on latter date, and so on till August with very slight variations, or light, variable.

In autumn, winds continued to prevail easterly, till about the 20th Sept., when they changed to westerly and northerly, and this appeared to be characteristic along the whole E. coast,

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* Mr. D. M. Scott has removed to Lamlash, Arran, since the date of his last schedule, Sept. 15th, 1884, and is succeeded by Mr. Youngclause from Monach Islands. Mr. Youngclause sends a light schedule from Sept. 19th to Nov. 16th, of interest in showing the northerly extension of the migration of Linnets and Turdidæ (see General Remarks under Gulls).

thus making a visit paid by me to Isle of May, for three weeks in September and October, rather unproductive of visible migration. This N. & W. prevalence caused migration to be much dispersed, and no great rushes are recorded at Pentland Skerries or other stations. But on the 14th Oct., during mod. E., after N.N.E. and N.W. gales, a rush of Thrushes and Woodcocks will be found recorded. Between Oct. 17th and Nov. 7th winds very variable round three-fourths of compass, but almost never entering the fourth quarter between S. and E.—indeed only on three days. Strong N.E., weather cloudy and clear, very little haze. This continued till Nov. 30th, except on Nov. 11 a S. gale, on 8th S.W. gale, and on 20th a N. gale.*

Dunnet Head gives a light return. The daily to-and-fro migration of Gannets is spoken of in *general terms*, and the dates of arrival and departure of rock birds were "about the same dates as stated in last year's report."

Cromarty.—The prevailing wind at this land-locked station at the times of records, given between March 24th and Dec. 26th, were from W. and S.W. Dates of arrivals in spring and departures in autumn given. As before remarked, such land-locked stations give abnormal returns as compared with freely exposed stations, and the S.W. or W. winds were local.

Chanonry.—Practically blank as regards actual migration, all movements being local, Mr. J. McGill finding Scarts and Cormorants flying up and down the Firth, Wild Ducks feeding in frosty weather, and many Larks on Jan. 17th, 1884. Local movements of Green Plover in November and December. No certain migration discernible.

Kinnaird Head returns a blank schedule, with the positive statement "No birds." I am obliged to the head lighthouse-keeper for returning this schedule. Such if regularly returned would enable me to give always, year by year, a positive statement of negative value. I wish others on the Aberdeenshire coast would follow his good example.

Girdleness.—A light return during November 14th to 17th and December 1st to 12th. "Birds at this lighthouse very scarce, the situation being very exposed. A record of a Fork-tailed Petrel (seen by me on 15th August, J. A. H. B.) is of

* Read the above in connection with General Remarks.

considerable interest. Dead calm and hazy; on E. side of lantern; about 12 p.m. Stomach contained only an oily matter (Geo. Sim) *vide* Proc. Ryl. Phyl. Soc. Edin. 1884.

Bell Rock sends excellent schedules as usual. The early advent of a swallow—March 13th and 14th—is commented upon by letter. "It seemed much exhausted." Mr. Hutton, Bank Manager, Royal Bank, Arbroath—a gentleman much interested in ornithology—gave a full account of the occurrence in the 'Dundee Advertiser' of April.*

Between April 9th and Sept. 3rd scarcely any migration was observed at Bell Rock—only four records in that time on April 28th, April 30th, May 7th and 9th. But before and after these dates in spring and autumn, considerable migration is recorded in comparison, but decidedly slack, as compared with

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* "About four o'clock in the afternoon of the 13th and 14th March the light-keeper on duty at the Bell Rock Lighthouse observed a swallow fluttering in front of the kitchen window. After watching it for some little time he opened the window and stood aside to see if the bird would come in. This in a minute or two it did, and alighted on the inside of the window-sill. So exhausted did the little wanderer appear from its long flight and the buffetting of the weather that it allowed itself to be lifted up and put into a cage. It immediately lay down on the bottom of the cage and instantly fell fast asleep, remaining in this state till next morning about eight o'clock (sixteen hours). So sound were its slumbers that the keepers watching it as it lay could scarcely detect any signs of life in it, and at times they were almost certain that it had died. On awakening at the hour mentioned the swallow was taken out by one of the keepers and given a drink of water. It was put back into the cage again, where it lay in an apparently dormant condition till 10 A.M., when it was supplied with more water, under the influence of which and the rays of the sun it became quite lively and strong. The kitchen window was now lifted up and the bird taken out and laid on the open hand of Mr. Jack, principal light-keeper. Resting there for a moment, it gave one cheery twitter, and, springing upwards from the outstretched palm, it winged its way in the direction of the land and was lost sight of in the space of a minute or two. The appearance of the bird so far north at such an early season is remarkable. The swallow migrates to Africa at the end of October, and it is not till the middle of April that the flight northward begins, so that the one which surprised the light-keepers before March was half run was several weeks earlier than the usual time for their appearance here. It may be added that, the Swallow being an insectivorous bird, the light-house keepers were unable to supply it with its ordinary food, and abstained from giving it any other for fear of injuring it."

other seasons, in autumn, owing to northerly and westerly winds. This, however, was followed by a great rush in November, for particulars of which the reader is referred to the details under Species. The marvellous congregations of Gulls and their prey the Sprat or Garvie (*Clupea sprattus*) are commented upon. (General Remarks).

Isle of May.—In January, 1884, intermittent migration continued. The great gale of 27th to 29th produced nothing of any consequence—one Yellowhammer, however, being the first of the species seen for some time.

While rushes took place in spring at Bell Rock in March, with the wind prevailing E., at Isle of May much smaller movements are recorded, local winds apparently being more S. & W. (See especially "Thrushes," but the remark applies to other species also.) This is curious at two stations so close to one another. Rush of land birds in April. Movements of Guillemots and rock birds somewhat different (see details). Partial albino of the Willow Warbler captured (seen by me, J. A. H. B.) Long spell of E. winds in April and rushes; but a light S.W. wind on 30th, changing from S.S.E., brought a "wonderful rush of land birds." This seems to me interesting, as proving the station to lie in the direct route of migration, rushes occurring both in the most favourable winds—S.E. or E. (*i.e.* for spring migration), and those supposed to lie less favourable, and following winds, viz. S.W.

A later schedule—April 30th to June 3rd—shows evidences of a decidedly late spring migration, for which it seems difficult to assign a cause. This was also noticeable on land. It took place in second week of May, with light S.W. and W. wind, mist, fog, and rain; principally of Warblers and insect-feeding species.

Very few records are given between June 11th and August. A usual return of Warblers, &c., noted as rather early by August 10th. Rush of same species, 19th and 24th. In end of August and all September, on till about October 18th, winds retarded migration, being N. and W.; never, or very rarely, S. and E., or S. of W. I spent three weeks and three days on Isle of May, between September 24th and October 17th, and during that time only witnessed intermittent and slack migration; the only attempt at a night rush apparent being on the

night of October 4th, at the time of total eclipse of the moon—wind Light W. at the time—some twelve Goldcrests being caught at the lantern.* A male Black Redstart was shot on October 24th, and a second seen on 25th. The principal rush of the year on November 4th instances the effect of a sudden change of wind. This must have been a very vast and determined rush, as many came also with a W. wind afterwards. This rush was composed principally of Finches and Larks, with considerable numbers of Turdidæ; but the great rush of the latter (Thrushes) did not take place till the rush of the Finches was past. Whilst the Finches and Larks greatest rush was on Nov. 4th, the greatest rush of Thrushes, Blackbirds, and Turdidæ generally was on 12th to 16th. (For particulars see details under Species).

Thereafter migration continued with less force up to Jan., 1885, the date of the last schedule to hand.

Inchkeith.—This land-locked station returns a light schedule—of considerable interest, however, as carrying out what has been remarked by us in previous reports, that when birds do occur here on migration it is usually with S.W. and westerly winds, whether in spring or in autumn. The Siskin seems to frequent Inchkeith as a regular migrant, and Titmice are also regular in appearance.

Separate Report under Genera and Species.

Turdidæ.—In spring, migration at Sumburgh Head (April only, large flocks of Common Thrushes on 1st, wind light S.E., clear, along with Starlings and Linnets), and Pentland Skerries (indication in March, and partial and remittent in April, but no great rush evident). At Bell Rock (great rush recorded on 6th and 8th March of Thrushes, Ring Ouzels, light S.E. wind), and at I. of May, but rush not observable here on 6th and 8th, there being only two records of Blackbirds and a few Redwings, owing to local wind being light W. and haze. Earliest record at I. of May, Feb. 20th, one Redwing with Blackbirds and Thrushes; a rush, and latest records, also at I. of May, on 29th and 30th April,

* Our Isle of May notes containing a few items of interest will be used in a separate paper on that island, but actual results will be worked into this report also.

along with Robins, Redstarts, &c., with S.E., or light S.W., of Ring Ouzels. Light records in March; on 9th and 10th twenty Fieldfares—"a good number"—with light N.E., clear, and N.N.E. and rain.

In autumn the migration was pronounced, and whilst desultory movements continued during September and October, the heaviest rushes are recorded in the middle of November. Records of Dippers, one on Aug. 2nd and another (well described) on Aug. 29th, at I. of May; wind light W., clear. The place where they were observed was afterwards pointed out to me—*viz.*, at the edge of a stagnant pool of water near the "Mill Door" on the I. of May. Earliest record of Fieldfare, Sept. 10th, at I. of May, light S., haze; latest of same species, on Dec. 31st, and Jan. 19th, 1885, also at I. of May; variable, haze. Earliest record of Common Thrush, also at I. of May, the day after, *viz.* Sept. 11th, light S., haze; and latest, at I. of May also, on Dec. 22nd, when "a few" were noticed. Earliest Missel Thrush on Sept. 27th (seen by J. A. H. B.), also at I. of May, with gale, W.S.W., and latest Oct. 14th; but others, no doubt, have escaped special records, and have been confused with other species. Earliest Redwings do not appear in the schedules till Oct. 2nd, also at I. of May (J. A. H. B.); on 7th a few more, followed by scattered records till Nov. 12th, when old and young struck in numbers at Bell Rock, and the rush of this and of Fieldfares took place on the 4th and 5th of November, continuing till the 17th, with Blackbirds, male and female, and intermittently until December. Earliest Blackbirds Sept. 11th,—"not many,"—at Isle of May.

Rush of Thrushes, Nov. 7th (light) at Pentland Skerries, and Nov. 30th, at I. of May (considerable). Rush of Fieldfares and Redwings (indicated) at N. Unst, on Nov. 5th, with a few Blackbirds,—all flying S.,—indicated at Pentland Skerries, 5th, 7th, to 12th, with Blackbirds and a few Thrushes and Woodcocks, on 12th. At Dunnet Head a few Blackbirds and Thrushes seen daily between Oct. 1st and Nov. 13th. Rush of Ring Ouzels ("great numbers") at Bell Rock; and rush of Fieldfares and Redwings at I. of May on 4th and 5th. At N. Ronaldshay also a rush visible on the 8th, with Woodcock, Crows and Rooks; Nov. 7th and 8th, wind E.S.E., a great rush. All during October the above-named *Turdidæ* appeared in small numbers, the wind

prevailing N. and W., and scarcely ever S. and E. Stations sending returns of Thrushes are N. Unst, Pentland Skerries, Dunnet Head, Bell Rock, and I. of May. At the dates of the rushes they were accompanied by many other species. The rush at I. of May on 4th and 5th continued in great force after the wind shifted to S.E., with rain, after wind S. at noon, on 4th ("perfect weather for witnessing migration"), so fewer Fieldfares again on 5th, with wind—a W. gale, instancing the abruptness with which migration ceased owing to changes in the wind. A vast rush of Blackbirds, females predominating, on 12th, at I. of May, with S. haze and drizzle, but ceased utterly with change of wind to W. at 9 p.m. All birds striking on S.E. side, *with* the wind. Along with this rush came large numbers of Redwings and Fieldfares, Hooded Crows, one Yellow Bunting, large number of Larks, Robins, Bramblings, Chaffinches, eight Hedgesparrows, a few House Sparrows, two Woodcocks (shot). On the 15th Blackbirds as numerous as ever, but fewer Redwings and Fieldfares; hundreds of Snow Buntings, flying N. By the 17th Blackbirds were mostly males, but females had predominated up to that date. In January, 1885, between 4th and 21st, a few light records of Fieldfares and Thrushes, and a large number (rush ?) on latter date. The rush on Nov. 4th consisted of Siskins and other *Fringillidæ* (these continuing in small numbers to the 6th, notwithstanding the change of wind). Mr. Agnew describes this as the largest rush of migrants this season at the I. of May, and it must have been very vast, close, and determined, when even on the 6th, with light W. wind, large numbers of Bramblings and Chaffinches still appeared. Other species participating besides the above were Siskins, Woodcocks (six killed), Rock Pipits, one Owl, two Falcons. (See notes upon weather under "Notes under Stations." We refer back to this account under other species, to dates).

Saxicolinæ.—Wheatears in considerable numbers at Pentland Skerries and Isle of May (a rush). Earliest at Isle of May March 26th, light S., two; and a few more on 28th at same station, including two old males. Rush with S.E. to S.W. wind at Pentland Skerries, on April 6th, and considerable numbers at I. of May on April 3rd. Beyond these there are no other spring records of this species. On March 31st a single Black Redstart (*in mus.* Feilden & Harvie Brown) is recorded from Pentland

Skerries; light S.E., haze.* We have also three single records of the true Stonechat at I. of May, on 2nd, 28th and 30th April, and one at Pentland Skerries on May 14th, light E. wind, struck lantern, not killed. On April 30th a rush of Redstarts along with Robins, Ring Ouzels, &c., at Isle of May. This concludes spring records.

In autumn records from N. Unst, one Redstart (the only one seen this year) and one Wheatear, on 7th and 12th September respectively; flew S.W. This is the earliest 1884 record of *Saxicolinæ* in autumn. Also from N. Ronaldshay, a number on 15th striking, and Pentland Skerries, Bell Rock, and I. of May, of Wheatears, a few Redstarts, Whinchats, &c., and one Black Redstart, old male, shot (*in mus.* I. of May, present curator Mr. Joseph Agnew). Another was seen the following day—first on 24th, second on 25th Oct. (recorded in full in Ryl. Phyl. Soc. Proc. 1885, read 21st Jan., 1885); a Common Redstart seen at same time.† The records of all the species are light, and no rush, unless of Wheatears, *ut sup.*, Oct. 22nd, at Isle of May, increasing by the 25th. During our stay on the island (27th Sept. to 17th Oct.) we observed a good many straggling birds. A few accompanied the rush of other species on Nov. 12th (see TURDIDÆ). One Whitethroat is returned from I. of May, striking face of lantern, "facing the wind," on Sept. 12th. Mr. Agnew

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* A full record of this rarity, and of previous occurrences in Scotland, is given by me in Proc. Ryl. Phyl. Soc. Edin., read 23rd April, 1884; and a system of Record Forms recommended for tabular and formal records of rarities in future (see also Report for 1883, p. 81). We wish observers would recognise the use of some such uniform method, and we are certain it would save much time and trouble for future compilers.

† All the previous records of this species in Scotland relate to localities the position of which shows comparatively easily how they arrived at each. These records now amount to six in all, of which I have recorded the last three since Mr. Gray wrote his 'Birds of the West of Scotland.' They are as follows:—

One: collection of Mr. Sinclair of Wick (R. Gray, *op. cit.*, p. 84).

One: obtained at Cullen, Banff, by Mr. T. Edward (ditto).

One: Kirkwall, Orkney, 20th Dec., 1859 (R. Gray, *op. cit.*).

One: Higginsneuk, Stirlingshire, 10th Nov., 1875 (J. A. H. B., Proc. Ryl. Phyl. Soc., vol. iv., p. 142).

One: Pentland Skerries (J. A. H. B., *op. cit.*).

One: Isle of May (as given above).

has the note,—to date of the 19th of September,—"I am surprised at so few birds with such thick fog." Log, light to strong E., thick fog, or haze between the 12th and 19th, yet migration was tardy.

SILVIINÆ.—At Cromarty, Robins disappeared March 24th. We have then spring records from Sumburgh Head, Pentland Skerries, Bell Rock, and Isle of May, all in April. Earliest at Sumburgh Head, April 1st, when four appeared, strong S.E., haze, but the remark is added, "First time Robins have stayed all winter." Next records not till 28th, 29th, and 30th, at Bell Rock, Pentland Skerries, and Isle of May, where there was a rush along with Ring Ouzels. The record at Bell Rock (28th) is one of very few records between the 9th of April and the 3rd of September.

In autumn, one return on Aug. 25th, as arriving at Cromarty, light S.W., clear. No more till Nov. 3rd, when "a few" at Isle of May. But next day a rush of other species (see under TURDIDÆ). There were, however, a few Robins frequenting Isle of May in September and October, and even the indication of a rush.

PHYLLOSCOPINÆ.—Only a slight indication in spring of Goldcrests' migration, 2nd, 8th, 16th of April, single records at N. Unst and Pentland Skerries. But of Warblers a rush at Isle of May, along with Redshanks, and Robins and Ring Ouzels (see Thrushes), and in May one Wood Warbler at Isle of May; light S.W.

In autumn:—Goldcrest, earliest appearance at Isle of May, Aug. 31st (a female), along with a Sedge Warbler, light W., haze; then on Sept. 1st, one at Isle of May, and a few light records, 7th, 8th, 10th, 18th, and 27th. On 7th at N. Unst ("only the second occurrence of it observed here"), and intermittent and light till 4th Oct., when, during darkest time and total eclipse of the moon, I assisted in capturing and identifying twelve Goldcrests at I. of May lantern, about which I may have more to say in the "General Remarks." Again, on the 24th, numbers were seen, with light S. wind. Some Chiffchaffs seen at I. of May on Sept. 11th, and one at lantern on 27th (seen by J. A. H. B.). This constitutes all the important records of the species of *Phylloscopinæ*.

TITMICE.—The only spring records of "Titmice" are 12th,

15th and 24th May, at Pentland Skerries, in different winds, *viz.* light N.W., fresh S.W., and light S.E.*

In autumn slight movements in September and October; one on Pentland Skerries on 5th Oct.; one "Titmouse" on I. of May on 9th Sept., and on Oct. 4th at same station, an indication of Titmice having joined in the migratory rush of that date, seven appearing, with light W.S.W., wind and haze. On Oct. 9th we shot a "Blue Tit" (*Parus cæruleus*, L.) on I. of May, which had been haunting the fields for two or three days; light W., clear. First actual record of the species by name here.

Acrocephalinæ — Accentorinæ.—At Isle of May a late rush took place of Sedge Warblers between 9th and 13th May, along with many other species, as follows:—Wood Warblers, Cuckoos, Meadow Pipits, Whinchats (vera), Flycatchers (till 14th), Fieldfares. Mr. Agnew remarks, "long of coming, and remaining longer than usual." Hedge Accentors bred for the first time on Isle of May, and I saw the old nest.

In autumn, earliest movement, a rush of Sedge Warblers, 10th August ("this is early"), with fresh S.E. wind and fog. Up to 19th a desultory movement, but on latter date a rush of Sedge Warblers, Whinchat, Wrens, Whitethroats (especially on 19th), Chiffchaffs, Starlings (q.v.). Rush again on 24th of small birds—Whitethroats and Warblers. On 31st a single Sedge Warbler killed. On Sept. 1st a number of Sedge Warblers, all at I. of May, light W., clear; and on 4th a number of Accentors (Hedge-sparrows). In October several Accentors at I. of May on 27th, and a few of the same species on 6th and 7th November, and along with the general rush on 12th (see Thrushes).

Troglodytinæ.—Earliest record at Sumburgh Head on 22nd March, when four appeared at 12 noon; light breezes, showery. Also in April at same station, on 1st and 15th, six Wrens, with S.E., fresh, and haze, and fresh N., clear, respectively. Also at Pentland Skerries, on 1st April, one, and one on 12th, with, in both cases, fresh to strong S.E., and at Bell Rock, on 2nd April, one, strong S.E., haze, flying W., with a general rush of "small birds" resting or flying W.

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* We wish our reporters could distinguish the species more exactly. We have six species of "Titmice" in Britain, and possibly seven on migration. I want wings of Titmice obtained or whole birds.

In autumn, at N. Unst, Sumburgh Head, and Isle of May. Earliest at Sumburgh Head, on 7th Sept., seven seen; 12th at N. Unst, fine, one remained a week; and 17th, at I. of May, one. In October, odd ones on 7th; at N. Unst and Pentland Skerries, a number (almost a rush on I. of May, on 9th, and increased up to 25th). In November one at N. Unst; strong N. wind.* "Wrens" are also recorded, on Jan. 23rd, 1885, as still present on Isle of May, probably having wintered there.

Motacillidæ.—As early as Feb. 14th, at I. of May, a single record of a "Wagtail" flying N.W., clear, fine. [The entry "Wagtail," we presume, in most cases is applied to the black and white or Pied Wagtail.] On March 25th one "Wagtail" flying E. over Pentland Skerries, light S., clear. At I. of May one on 9th March, a few on 22nd, and "two males staying to breed" on 28th. On April 1st two single records at Pentland Skerries, and at Isle of May; wind at both places, fresh S.E., haze. In May, from 8th to 25th, light records on eight days, four on the 10th (the most), and "several" on the 11th (indication of a rush?). "Several" again on the 12th. On the 16th one at Bell Rock, light E., and on May 14th two Yellow Wagtails, light W. In July, on the 5th, one "Wagtail," moderate S.E., and one on 20th, light, variable, clear.

In autumn, no records in August. Spasmodic movements in September at N. Unst, few records, and these single. "Several" at Pentland Skerries on 2nd, strong N.W., and ditto on 8th, light, variable, clear, and on 23rd ditto, light N.W., showers. On 8th and 9th at Isle of May, indication of a rush, adult and young, increase on 9th over the 8th; light, variable, clear. Last record, one on Oct. 9th at Isle of May.

Pipits.—The arrivals and movements of Rock Pipits (or "Mosscheepers" or "Tang Sparrows") are reported only from Bell Rock and I. of May in spring, in March and April; earliest 16th March at Bell Rock, latest 7th April; also at Bell Rock. At Bell Rock four single records, 16th, 29th and 30th March, and 7th April, and at I. of May, on 28th March, "more Rock Pipits arrived." At I. of May about twenty Meadow Pipits arrived on

* I feel a little curious about these N. Unst Wrens, and would like to see one or two.

the 13th of February, and a considerable rush—or at least indication of a rush—began on the 1st April and increased on the 3rd, and a further increase observable on the 23rd; winds S. to E. and S.E.

In autumn I have no records till the 13th September, "large numbers," at Isle of May, of Rock Pipits,—"a large increase on those already there,"—and none again at same station till 14th October, when a number arrived and "all except such as will probably remain the winter" left on 16th. More again appeared on the 25th, and still more on the 31st; and by the 4th of November a rush, with other migrants. At Bell Rock only six records of straggling birds between the 5th and 22nd. Rock Pipits are also given as still on Isle of May on the 23rd January, having wintered there as predicted. Of Meadow Pipits considerable numbers, with light E. and fog, at Isle of May, on the 16th and 18th September, and a few more seen occasionally up to the middle of October. No other records.

Muscicapidæ.—In spring a rush of Flycatchers noticed at Isle of May on 4th May, but no other records given from any other station. Considerable numbers were observed. No other records of any species during the year.

Hirundinidæ.—In spring I have a single record of a Swallow (Swift?) as early as 12th March, which arrived much exhausted, with strong S.E. wind and mist (see remarks under Stations, *antea*). In April only two records of Sand Martin at N. Unst, on 27th, and at Sumburgh Head on 10th, with light S.W. and S., clear (marked as "not common").

Land Note.—Allan Water, in Stirlingshire, 13th April, and at Doune, same county, next day. Became numerous by May 3rd at Bridge of Allan. Kelso 23rd and 28th March, and again on April 10th (Dr. J. Grieve, *in lit.*).

In May, records from Sumburgh Head in the North, Pentland Skerries, Cromarty, and I. of May. Earliest at the land-locked station of Cromarty on 5th, light N. and showers; indication of a rush apparently, about 11th or 12th, at the more northern stations, and faint indications at I. of May (eight birds) on 12th, with the remark "very few this year." On the 20th and 22nd also, simultaneous appearance of a few at Sumburgh Head and Isle of May—"Records in all, ten in May, at four stations, on six dates, between the 5th and 22nd." This formula perhaps shows as

well as any method, the distribution and arrivals on our East Coast.*

In summer, at I. of May one record of Swallow on 12th July, variable, light, clear; and one record of Sand Martin at I. of May on 18th July, fresh W. and clear. *Note.*—Summer records of Swallows usually occur in clear weather; compare with previous reports.

In autumn, in August two records at the more northerly stations, *viz.* Pentland Skerries, on 11th Aug., six birds, with fresh S., haze, and at Dunnet Head, on 16th of four birds flying E., with S.E. and fog. In September, Swallows left Cromarty, and were not seen after the 4th, at 1 p.m., wind light S.W., clear; all congregated on a housetop near the Lighthouse, and left suddenly at 1 o'clock. At Isle of May a few were observed on two or three dates in October, and on the 28th (Sunday) twenty were seen at 9 a.m. flying up and down the lee-side of the island hawking for flies; light S.W., clear.

Land Notes.—Without receiving any more returns from any East-Coast station, I myself observed a Swallow (*Hirundo rustica*) hawking persistently for flies over and across the lawn at Glendoune House, near Girvan, Ayrshire, on Nov. 8th (see West Coast Report). At Rothesay, Mr. John Grieve saw none during a stay there till 15th, when twenty or thirty were seen. None seen by him at Bridge of Allan after his return there on the 1st October.

Fringillidæ.—As in 1883, both in spring and autumn, Finches show themselves well to the front in migration; but while in some years Thrushes and Finches travel much together, in this year, whilst still many travelled simultaneously, as a glance at our data shows, yet the great rush of Thrushes did not take place till the rush of Finches was over. Thus, as will be seen, Green Linnets made a rush over in spring as early as 10th

* It may not have been apparent to the readers of our previous and this Report that, in order to arrive at final conclusions, after our collection of data is considered large enough, a certain amount of formal sameness and method of recording has been followed by the Committee throughout. This is for the final development of a system of easy tabulation at the end when all our data, year with year, come to be compared and deductions drawn. Our Irish members of Committee have departed somewhat from this plan of work, but there seems no reason apparent why their results need not with equal ease be made workable into the final form of reduction.

February, but the rush of Thrushes did not take place till later —about the 6th March. In the same way, while the greatest rush of Finches in autumn took place on the 4th November, Thrushes were not in force till the 10th and 12th. The extension of the migration of Finches in 1884, in time, dates Feb. 15th (three Grey Linnets at Pentland Skerries at noon, wind strong S.E. and clear) to Jan. 26th (four Green Linnets at Isle of May, wind variable, light, clear). The extension of the migration of Finches (of sorts) in 1884 in N. and S. direction, ranges from Sumburgh Head,—a single record of great numbers on the 3rd April, with strong S.E. and haze,—to Isle of May; earliest date 10th February, followed by rush on 12th; latest date Jan. 26th, four Green Linnets. To compare with the above, the extension in time of the Thrushes' migration dates also from Feb. 10th, but movements were much fewer so early—a single Redwing and a few Blackbirds and Thrushes, strong S.E., clear, up to 23rd January; rush between 19th and 23rd of Fieldfares, &c. The extension in N. and S. distribution ranges from North Unst,—a dozen Fieldfares flying S., light W., clear,—through Sumburgh Head; large numbers; and a rush on 1st April, strong S.E., along with Linnets, rushes at more southern stations taking place in March, on till our southern stations of Isle of May and Bell Rock are reached.

Now, taking the above general remarks, we will treat it more in detail, as this affords a good opportunity of making final tabular comparisons.

In spring, earliest at Pentland Skerries, three Grey Linnets at noon, as already recorded, light S.E., clear; latest Green Linnets (and latest Finches), 17th June, one at Isle of May. An early rush of Green Linnets on 10th Feb., after a N.W. gale previous night, and a great rush on 12th, with other migrants; and of Thrushes, Bramblings, Chaffinches and House Sparrows, at Isle of May. Intermittent movements during March at Pentland Skerries and Isle of May and Inchkeith, flocks of Chaffinches, Grey Linnets (25th), Bramblings, Green Linnets, and four Siskins (at Inchkeith on 25th, with light S.W. wind, with which, being a land-locked station, this species usually occurs), two Bullfinches, at Bell Rock, on 31st March, flying W. In April Chaffinches, Grey Linnets, and one Sparrow at Pentland Skerries, between 5th and 22nd; wind prevailing S.E., except on 12th and

17th, when light N.E. At Bell Rock one House Sparrow (female), exhausted, died after feeding on 31st. From the 9th April, when one Bullfinch was seen (and one the day before), scarcely any migration observed until Sept. 3rd—a few records only of "small birds" on April 28th and 30th and May 7th and 9th. At Isle of May a rush ("evidently") of many species, including Tree Sparrows, Bramblings (males), Chaffinches (males, but some females), from the 3rd, and during 4th, 5th and 6th, to 10th. The female Chaffinches came on 6th to 10th, but mixed males and females on the 10th. Tree Sparrows abundant. Rush tailing off, with light returns, on 15th, 16th, 17th and 23rd to 30th. In May Grey Linnets are reported to arrive, for the purpose of breeding, at Isle of May on the 29th. Other records run rarely of this species, and only a few intermittent records of birds flying W. or N.W. at Pentland Skerries, and a single bird at Bell Rock between 9th and 30th. One Sparrow (male) on 7th, and two on 9th, at Pentland Skerries; and two Bullfinches, flying W., with strong E.S.E. and haze—the only other May records. In June the last of the Tree Sparrows on 13th at Isle of May, strong S.E., completely ends the spring records, and we do not have another of any Finches till Sept. 8th.*

In autumn, no records in July or August recorded. Very light in September: two records of Grey Linnets on the 8th at Pentland Skerries, and of Siskins at Inchkeith on 10th; latest on Jan. 26th, four Green Linnets. Rushes (or indications) at Pentland Skerries and Isle of May, between 4th and 7th, of several species; Grey and Green Linnets, Bramblings, and an increase of Chaffinches on 25th and 27th. A rush of Linnets (and Larks) at Inchkeith on 23rd, with light S. breeze; "continuous flocks all day flying round." Most northern records of Finches in autumn at Sumburgh Head on 12th October. Great rush, 4th November, with many other birds; wind S. and haze during the night, S.E. in morning, and rain at 10 a.m. ("perfection of weather for visible migration"). At 9 p.m., gale from S.W. and heavy rain. Nevertheless, so persistent or so vast was this rush, that, even with W. gales and showers, a few Chaffinches, Tree Sparrows, House Sparrows, and Green Linnets were seen

* The bulk of the autumn records will not admit of treatment *in extenso*, as they are heavy, so we will cut them shorter than the spring ones.

migrating at Isle of May—the largest numerical rush of migrants there this season; continued intermittently to end of December.* Large numbers on 12th December, flying N., light W., haze. Mr. Agnew has the note, "Never saw so many Finches in one year as this."

Corvidæ.—In Spring, Rooks are recorded from Pentland Skerries, Bell Rock, and Isle of May. Earliest date, Pentland Skerries 14th February, two seen on island, fresh S. Latest also at Pentland Skerries on 14th May. Light S. No rushes very apparent. Largest numbers, six on March 10th at Pentland Skerries, and eight on April 19th at same station. Most records (on different dates), in March six, and in April four. Fewest records (on different dates) in February two, and in May two. Direction of wind and weather on dates of record in February:—Fresh S., on 14th, two birds seen on Pentland Skerries; Fresh S. clear, on 23rd one seen at Pentland Skerries. In March, S.E. gale, rain on 9th, two or three seen at Pentland Skerries; light airs, variable, snow on 10th, six seen at Pentland Skerries; calm, haze on 4th, one seen flying S.W. at Bell Rock; light S.E. on 8th, one rested on dome of lantern. Fresh S. breeze on 13th, one seen flying W.S.W.; light W.S.W., haze, one flying S.W. on 22nd. In April:—light S.E. on 3rd, one seen at Pentland Skerries; light S.E. on 5th, four seen at Pentland Skerries; fresh N.E. on 19th, when eight seen at Pentland Skerries; N.E. light clear on 3rd at Bell Rock, one resting on window. In May:—strong N. on 6th, at Pentland Skerries, two seen; light S. on 14th, one seen at Pentland Skerries.

In July one record of Rooks at Pentland Skerries, fresh N.W.

In autumn, Rooks are recorded from N. Unst, Sumburgh Head, Girdleness, but much scarcer than in spring. Earliest date, 12th September, a pair, seen at N. Unst, flying S.W., and one on 19th at same place, also flying S. Latest, December 4th, at Girdleness, "large flocks,"† rushes, none apparent, unless any accompanied the rushes in October of Hooded

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* Since the above was written out I have received the January schedule from the Isle of May, and in it intermittent movements of Green Linnets and Bramblings up to 26th—the latest date—are recorded.

† May only have been of local significance, but cannot say, as direction of wind and flight is not given in schedule.

Crows, but none recorded as accompanying the latter. Only records on two days in September, one day in November, and one day in December.

In Spring, Hooded Crows (*Corvus cornix*, L.) are reported from Pentland Skerries, Bell Rock, and Isle of May. Earliest, February 23rd, at Pentland Skerries; latest, May 3rd at Pentland Skerries. No great rush; less than usual. Mr. Agnew's note at April 10th, "very few Hooded Crows this year." It is difficult even to fix an indication of a rush. All the records of Hooded Crows and Carrion Crows occur with either fresh S. or light S.E., except a few of the latter, with N.E. clear, on April 15th. Of Carrion Crows, a slightly larger and more compressed migration, beginning on 8th March with twelve seen, ending 15th April; and an indication of a rush between 8th and 15th, flying N., recorded only from Bell Rock and Isle of May.

In autumn, a more decided movement of Hooded Crows, with a few Carrion Crows (the latter on October 24th to 26th), records from Sumburgh Head, N. Ronaldshay, Pentland Skerries, Girdleness, and Isle of May (none noted at Bell Rock). Earliest, at N. Unst (most northerly station); on Nov. 7th one got in court with broken wing, and at N. Ronaldshay on 8th, numbers; strong S.W. Next earliest, on 11th at Pentland Skerries, 3 seen. Mod. S., clear. Latest on December 4th at Pentland Skerries, and at Girdleness on January 4th at former, and Dec. 4th at latter (with large flocks of Rooks at the latter). Decided rush between Oct. 11th and 26th at Pentland Skerries (14th), Mod. E., and at Isle of May. The numbers recorded are, on 11th and 12th one shot by J. A. H. B.; no more till 23rd, eighteen flying N. (and Rooks), forty on 24th and forty on 25th, with one Carrion Crow. Continued on 26th; one lighted on lantern (rare). Again, in November, a number for some days (along with Ravens, at Sumburgh Head on 10th; also at Pentland Skerries a few, and the indication of a rush at Isle of May, on the 12th to 15th, flocks of nine and twelve having been seen on these dates.

Other species mentioned are Jackdaws, a few in February, at Isle of May, stayed between 16th and 21st, and one seen on 25th. None anywhere in March, but resident from April 1st till August 1st, when all left. Besides these, a few passing birds at

Pentland Skerries, on April 4th ("rare"), "fatigued," fresh S.E., and two on 19th, fresh N.E. Three also on 22nd at Isle of May, fresh S.E. haze, and in May at Pentland Skerries, one, N.W., clear; resting on island. Jackdaws have one entry, August 1st at Cromarty. The note is added "have all left." In October, one Jackdaw again at Pentland Skerries (marked again, "rare"), light W., rain.

Ravens.—One record on April 4th; three seen at Sumburgh Head, probably resident at Fetlar, or in the vicinity. A number are recorded on one date in autumn, also at Sumburgh Head on October 10th. These spring and autumn movements may safely, we think, be looked upon as local and not regular migratious.

Cypselidæ.—*Land-Note.*—At Bridge of Allan, Stirlingshire, "Forth," first seen on May 9th after a wet day and cloudy; quite numerous on 11th; a warm sunny day.

Sturninæ.—All records of Starlings—spring and autumn—are light. Earliest in Spring, Feb. 15th, one at Sumburgh Head and a flock at Isle of May. Latest, Dec. 26th (autumn), a few at Isle of May. Most spring records in March; five records at four stations (Sumburgh Head, Pentland Skerries, Bell Rock, and Isle of May); on 7th (Sumburgh Head), 5th (Bell Rock), 2nd, large flock (Isle of May), and 17th (Pentland Skerries). Prevailing wind S.E., and haze. In April great numbers on 3rd (young birds) at Sumburgh Head, and large numbers on 15th. At Inchkeith a pair built for the first time for eight years, and reared young.

In autumn, large flocks every day, about beginning of August, at Isle of May (earliest) up to September 19th, when all left, mostly young. Up to date, wind easterly, changed on 20th to W. An increase observed on October 25th at Isle of May again. Intermittent and rare in November, all over, and on 18th a strong S.E. gale, apparently drove them all away. In December a few seen on 12th and 26th, and a few on Jan. 12th, 1885.

Larks.—Spring, heavy migration, but confined in time. Earliest February 5th, at Bell Rock, and a few on eight dates at Bell Rock, prevailing E. and S.E.; on 5th, light W. on 14th, 15th, and 16th, varying from gale S.E. at 9 p.m., on 15th, to W. Latest, April 3rd, at Sumburgh Head, great numbers (along with Thrushes). Greatest rush, March 6th,

at Bell Rock. All left 7th and 8th, and were succeeded by a "great flock" on 8th again (with Thrushes) striking and rebounding into the sea.

In autumn, no records till September 9th, then one at Bell Rock; two other records in September, one at N. Unst and one at Pentland Skerries. On Dec. 14th a rush took place, with S.W. gale and sleet. Between 12th and 16th Nov. a great rush at Bell Rock and Isle of May; on change of wind from light S. to W. at 10.30 all left on 12th, but were succeeded by great rush on 15th. The greatest rush on 12th (see Thrushes). Another rush appears to have taken place on January 28th and 31st, and intermittent movements on 25th and a few other dates; a number on the 20th.

Emberizidæ.—Yellow Buntings at Isle of May, February 15th, two all day; light S.E. showers (earliest records of any Buntings). In March 5th, seven Buntings at Isle of May, fresh N.W. clear; and on 31st two Corn Buntings at Isle of May, fresh N.W. clear; and on 31st two Corn Buntings, fresh S. In April two single records of "Buntings," 5th and 21st, light S.E. with a movement of other species. In May, three records of Corn Buntings, on 2nd, 12th, and 22nd, at Pentland Skerries, W. and variable. In July a common (Corn) Bunting was observed at Pentland Skerries, on 7th, moderate S.E., fog.

In autumn, returns light, as compared with most years. Earliest Snow Bunting at Pentland Skerries on September 17th ("first seen"), one bird. In October, very few at Pentland Skerries and Isle of May, but thousands—a rush of Snow Buntings—at N. Ronaldshay on 12th and 25th October. Rush November 12th to 15th (with other species). Snow Buntings usually appear with gales and snow and sleet, but this year have come in clear weather as a rule. Great numbers at N. Ronaldshay on December 5th, and have been there since last date. A few stray records of Yellow Buntings in December, and in January, 1885, and one flock of Snow Buntings on Jan. 4th, 1885.

Cuculidæ.—Only records are May 11th, one at Isle of May, and at same station June 11th and 17th, light S.E. and clear, both dates.

Strigidæ.—No records.

Falconidæ.—As usual there are numbers of records of

Hawks, Falcons, &c., at most of the island stations—so many indeed that we consider it unnecessary to notice them in full, as we have hitherto done, except where rarities occur or where distinct migratory movements are clearly seen. Records of Falconidæ run all through the year in most seasons, and generally apparent, mostly due to local flights, pursuing waders or land birds. Thus in February, March, April, and May; but apparently, in 1884, not observed in June and July, re-appear in August, September, October and November, but are not recorded in December this year. Lightest returns in February, March, April and May in spring; lightest in August, November and December in autumn. Heaviest returns in September and October. They participate *less* in spring migration, and search of food, as at that time they have more local habits and are preparing their nesting-places, but *more* in autumn, because the young are hatched off, able to look after themselves, and working hard in the "struggle for existence."

The species mentioned in spring are as follows:—Game Hawk (Peregrine Falcon), Merlin, Eagles (seen several times at Sumburgh Head in April, breeding near at hand), Sea Eagles, Sparrowhawks. And in autumn, Game Hawk, Kestrel, "Yellow-spotted Hawk", "Large Yellow-spotted Hawk," (Isle of May) Merlin, Large Blue-backed, "with a white ring round front of the neck, too small for a Goshawk."

Note.—We want badly to have specimens for identification of different Hawks.

In September we have ten records of above species, at two stations, and in October ten more also at the same stations, *viz.*: Pentland Skerries and Isle of May; on eight dates in September and eight dates in October.

We do not think more minute data will serve any useful purpose, except where decided migrations of large numbers of Hawks are observed, or distinctly foreign or new and unusual species.

Pelecanidæ.—We have records of Solan Geese in every month in the year except January, November and December, but on only one date in February, three in March, four in April; but bulking heavier. Great numbers in May, continuing in June, increasing in July, and continuously in flocks in September.

But in October only one record, and that on the 2nd. We will yet have to see where all our Gannets congregate during these three months; they are absent from our British coasts, or, at least, at their scarcest.* From the date of the first (February) record the almost invariable direction of flight given is "flying east," or easterly; but one record at Sumburgh Head gives "a number flying N. on April 11th, light N. clear,"† on to the date of September 17th. But on the 19th September an unmistakable change takes place, and while we still find up to October 2nd, Solans flying east, we also find that from Sept. 19th Solans were also flying west, past all the stations sending returns, *viz.*, Pentland Skerries and Dunnet Head. I wish more correspondents both on East Coast of Scotland, at say Noss Head and Buchanness, and St. Abb's Head, and on the West Coast at Barra Head, Stoir Head, and Rhinns of Islay, would return daily records of the movements of Gannets, specially noting the direction and flight of flocks.

Solan Geese bulked largest in July, flying E., and the return rush appears to have taken place two months after, in September. On January 5th, 1885 there is one record of five Solans flying E. Fresh W. cloudy at Pentland Skerries. We would ask Mr. Gilmour, or the principal lightkeeper at this station, to carefully record any movements of Solans during the winter months which come under his observations.

Since the above was written a late schedule from N. Ronaldshay reports Solan Geese flying north every day between July 5th and about Sept. 1st in flocks all day of from two or three to twenty.

To 1885.—In February, 1885, seven Gannets flying W. on 12th, and three on 21st.

Ardeidæ.—Herons are recorded from March to June sparingly. None in July or August. Sparingly again in September, none in October, and a few in November,—a very light migration as compared with 1882.

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* See Mr. Anderson's notes on Atlantic 220 miles from Boston in May, and his notes also off Cape St. Vincent in January, 1885, in the present report, p. 4, and evidence of the migrations of this species in previous reports.

† At Sumburgh Head the migration appears local, "passing N. or S. during the herring fishery." In this connection see General Remarks regarding Gulls, at the end of West Coast of Scotland, and the movements of sprats (*Clupea*).

ANATIDÆ.—Thirteen Swans at N. Unst seen flying N.W. on April 3rd, light airs, clear, and at same station three seen resting on the loch on Oct. 30th, wind light S.W. and rain. Of geese no spring records. In autumn, fifteen Wild Geese on Oct. 26th, flying S.; strong W. gale on 25th, and N.W. on 26th. In November, three grey geese seen flying west at Pentland Skerries; wind fresh W.N.W. clear (marked "rare"). Of Eider Ducks, earliest notice at Isle of May, a few small flocks on March 23rd, W. to N.W.; a large flock ("very few hitherto") on April 19th, and another (the same?) on May 11th. No more, except such as breed there, at least no records till Sept. 24th; thirty-four Eiders (three old males and one King Eider with them). This flock had, however, been frequenting along shore for some days. The King Eider was a splendid male, and was watched a whole day at six or eight different vantage-points with a powerful glass. Next day, while all the Eiders were still there, this bird disappeared. During the three weeks I spent on Isle of May in September and October, flocks of Eiders were never absent, shifting their position according to the direction of the wind, and diving, as is their habit, in the very midst of the angry surf. The largest number counted in a flock was fifty (six males) on Oct. 6th.*

Teal, one record at Pentland Skerries on June 25th, light N.W., resting on island; and one Wigeon at Isle of May on June 11th; one Wild Duck, one Teal, Isle of May, Oct. 1st; large numbers of Wigeons and Scaups in the Moray Firth by Nov. 16th, and Barnicle Geese; one Teal and one R. B. Merganser, shot at Isle of May (*in mus.* Isle of May) on 25th and 27th Nov. But at N. Ronaldshay Eiders began to arrive by September 1st, and remain all winter in hundreds.

COLUMBIDÆ.—Wood Pigeons: one at Isle of May on 6th September, light W., clear; a large flock flying N.W., wind N., light, clear, on 14th November; about one hundred on 26th, flying N., wind light W.N.W. No other records from any other station. An increase on resident numbers of Rock Doves observed at Pentland Skerries on 14th November.

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* I saw some thirty or forty dead Eider Ducks and Drakes at a bird-stuffers in Edinburgh in February, shot in Orkney by a Mr. Scott, of Meadow Bank, Edinburgh; I should be glad if Mr. Scott would tell me if he shot them for sport, or for what reason.

Land Note.—In January, at Glenboerie, Stirlingshire, Stock Doves appeared, and my keeper sent in two along with two Wood Pigeons. This species is rapidly spreading and increasing in Scotland. (See last Report, p. 25.*) This is the first record in E. of Stirlingshire.—J. A. H. B.

RALLIDÆ.—Corn Crake arrived at Pentland Skerries, 17th May; heard first time at Cromarty on 14th May; and one recorded at Isle of May, with rush of other migrants, on the 11th.

In autumn, the last old Corn Crakes were seen at Pentland Skerries, but young are still on island on 12th September; but on 7th November, at same station, one young bird was still frequenting the island; and on 8th January is again recorded, with the remark, "This bird seems to have been here all the season;" and therefore the records above, from 12th September to 8th January, 1885, probably all refer to the same solitary young bird, which, perhaps unable to leave at the time, yet has been able to survive the winter. We would like to hear more of this bird's behaviour, if Mr. J. Gilmour can give us further notes.

CHARADRIADÆ.—Lapwing or Peewit, a light movement only in spring, and scarcely any records at all in autumn. A few at Sumburgh Head on 14th and 22nd; light S.S.E.; and on 25th, fresh N., a few all day on island; a few single or light entries in March at Isle of May; most (seven) on 17th; and in June, two on 9th, at Sumburgh Head; lighter returns than in 1883, even; one at Pentland Skerries, 1st December. Scarcely any movements of Golden Plover recorded, and only at Pentland Skerries, 4th July, a flock; several one day in August, fresh S.E., fog; and at Sumburgh Head large flocks on 26th and 28th September. At N. Ronaldshay flocks of Golden Plover visit the island, about the 25th August, and many remain all winter. Oystercatchers, few records are given; two at Pentland Skerries on 16th March, and very large numbers at Sumburgh Head on 29th August.

SCOLOPACIDÆ.—Scarcer in spring than in 1883, and no rush appreciable; no records in April, and only stray entries on 16th, 25th, and 30th May. In July various slight records; all local migrations for food, no doubt, even when flocking together; or it may be, beginning to migrate, when in flocks, on 22nd and 24th

* See Mr. Cordeaux's report on Stock Doves crossing German Ocean and General Remarks.

July; and from that, on to 21st October, flocks on many dates; wind S.E. in September at N. stations up to 20th, or thereby; but in October northerly and westerly, or N.E. gales. When direction of flight is given it is usually East in autumn, distinguishing, of course, between real migrants and only local movements. Fifty Curlews at N. Ronaldshay on 22nd August; remain all winter; and a few shot usually by Mr. J. Tulloch.

In autumn, a considerable migration; a good Woodcock year. Earliest migrants recorded: one at Pentland Skerries, 14th October, moderate E., after a N.N.E. gale; with Snipe, and rush of other species. Latest, about 17th November, at Isle of May; five shot. Rush of Woodcocks between 12th and 17th, at Pentland Skerries; but especially at Isle of May, on 4th (six shot), 11th (four shot), 12th (ten shot). Few records in October, and this migration was delayed by adverse winds during that month.* A number are scheduled from N. Ronaldshay, on the island, all day; on 8th November light S.W. and rain, and the remark, "I never saw so many Woodcocks on the island since I came here." All left in a few days. One on 2nd December, at Isle of May; and on 12th and 20th January, 1855. Of Snipe, not many records. Earliest, one at Isle of May, 23rd April; and on 1st May at Pentland Skerries. Three Jack Snipe at same place, 4th July (an unusually early arrival, J. A. H. B.), moderate E., fog. Latest, four at Isle of May, 28th November; and Jack Snipe, one at Isle of May on 25th; few records in October; but indication of a rush in November, with other species, between 16th and 20th. At North Ronaldshay numbers of Snipe seen rising out of all marshy places on 17th November. One Jack Snipe torn open in striking.† At Torwood, near this, I saw nineteen Woodcocks shot on 13th December (J. A. H. B.), and many other good bags of Woodcock are on record this autumn

* One Woodcock struck hard on the west side of the dome at Isle of May, flying dead against light east wind, and was found next morning 100 yards to the N.E., and shot by a friend. Its breast was torn open, and much lacerated. It may have struck the side of the dome, and glanced off; but we were in the lantern-room at the time, and it sounded on the W. side. It had evidently dropped after striking outside the balcony, and then, recovering, flew straight for the Pilot House, the white-washed walls of which were reflecting the lantern-light.

† Some birds, even in light winds and haze, seem more impetuous than others at the lantern-lights, such as Woodcock and Snipe.—J. A. H. B.

and winter. They were, however, unusually scarce in the shooting season. Of Waders, generally, there are many entries, including Redshanks, "Sandpipers," Purple Sandpipers (Isle of May and Pentland Skerries), Turnstones, Ringed Plover and Dunlin (Isle of May), which we do not consider it necessary to detail. The rushes of other species indicate also the details of the above.

STERNINÆ.—Few records. Terns arrived at Pentland Skerries on 11th May; and at Cromarty the Lesser Tern arrived on 4th May. The Terns left about the 20th August, and the Lesser Terns on the 15th, with light S.W. wind. In September a flock of Terns passed Bell Rock on the 15th, and on the 17th a flock kept round the lantern all night, strong N.W., and disappeared with daylight.

Note.—The birds called the Laughing Gull, by Mr. Agnew, are the Common Gull (*Larus canus*), not common at Isle of May.

To Mr. Agnew.—The true Laughing Gull is an American species; and our Black-headed Gull (*Larus ridibundus*) may also be confused with your "Laughing Gull." "Common Gull" is the correct name of the bird you describe and name "Laughing Gull."

LARIDÆ.—Kittiwakes arrived in great numbers at N. Unst on 13th March, strong S., hail and sleet. Gulls and rock birds arrived in great numbers at Sumburgh Head on 8th March, and again on 24th, light N.E., haze.* Kittiwakes arrived first on 16th March at Isle of May, and great many more on 24th, wind from W. to N.E. Great Black-backed Gulls are mentioned at Sumburgh Head and Pentland Skerries on 4th February and 4th March respectively. Three "Bonxies" seen at N. Unst, 20th April, the first arrivals, light E.N.E., clear. Richardson's Skuas, a number at Sumburgh Head, 3rd May, S. gale and snow. Kittiwakes first appeared at (or first record at) Pentland Skerries, 5th May (?). They began to return west, by our records, on 23rd July, several flocks of Gulls, flying W. Skuas, occasional records at Pentland Skerries; are apparently local in August. Kittiwakes all left Isle of May on 29th August, and hundreds of

* See Oldest Inhabitant's remarks on the unusual abundance of Gulls all the season onwards, from 8th March, at this station, in connection with the migration of sprats in winter of 1884—85, and congregration of Gulls in Firth of Forth (*vide* General Remarks at end of West Coast of Scotland).

Gulls arrived. Flocks of Gulls all September at most stations, but no unusual numbers noted. "Gulls and Cormorants (J. A. H. B.) were wheeling high in air; not a good sign of the coming weather."* Iceland Gulls (called also "Snow Birds," in common with Snow Buntings) first appeared at N. Unst on 1st October, again seen on the 4th. "Gulls," of sorts, abundant at Isle of May by Nov. 17th; and garvies, or "sprats" (*Clupea sprattus*), in vast shoals round the island (see General Remarks). At North Ronaldshay numbers of Gulls seen, and a good many Black-backed Gulls remaining and feeding on the people's turnips! (or slugs or worms, J. A. H. B., 21st December). Lesser Black-backed Gulls, Herring Gulls, Great Black-backed Gulls, Kittiwakes, Black-headed Gulls, two common Skuas (J. A. H. B.), *L. catarractes*, a few Glaucous Gulls, one Little Gull recorded by J. A. H. B. at Kincardine, on the Firth of Forth. All the above species were frequenting the Firth of Forth, the Kittiwakes and commoner Gulls in hundreds and thousands. Sprats sold at 14*s*., 12*s*. to 8*s*. per ton at S. pier, at Kincardine; fields covered, mud covered, sea covered, air filled with Gulls. No such vast assemblage of Laridæ in Scotland since the invasion of Arctic Gulls in 1872-73 (see Proc. Glasg. Nat. Hist. Soc., Jan. 7th and 28th, 1873). The estuary of the Tay was quite deserted by garvies, or sprats, this season, and few Gulls seen there.†

Procellariidæ.—August, September, October, and November each contain a few records at N. Unst, Sumburgh Head, Pentland Skerries, and Isle of May. Earliest, 11th August, at N. Unst, one struck, not killed, fresh S.E., fog; and several struck on 19th. On 14th September several rested all night, from 11 p.m. to daylight, at N. Unst, fresh S.E.; and one next day struck, light S., fog; and one caught at Sumburg Head same night. On 18th October one found, struck, but not killed; light, variable, rain. In November one struck at N. Unst; on the 16th November, "a young bird, having still the down." I have recorded also a Forked-tailed Petrel (*Thalassidroma leachii*),

* In autumn there are a few Shags, or Green Cormorants, at Isle of May; but a colony, or roosting and fishing community of about fifty to sixty Cormorants, occupy the rock-ledges.

† Inside the dock at Bo'ness a man filled his boat, which held seven tons, twice in rapid succession. About 350 tons were brought into Bo'ness and trucked off. A much larger quantity I suspect was obtained at Kincardine.

at Girdleness, on 15th August, 1884 (see Ryl. Phyl. Soc. Proc., 1885, read 21st January, 1885).

ALCIDÆ.—Razorbills and Guillemots, and Puffins: February 15th, several "Marrots" first seen, forenoon; strong S., clear; at N. Unst. February 3rd, large numbers of Razorbills and Guillemots arrived at Isle of May; seven killed at a shot. February 7th, large numbers of Razorbills and Guillemots arrived at Isle of May; light W., clear. February 20th, large numbers of Razorbills and Guillemots arrived at Isle of May. February 24th, Puffins innumerable at N. Unst; first seen; light S., clear. February 24th, Guillemots in flocks flying S.E., at Sumburgh Head; first seen. February 27th, Guillemots, continuous flock flying S.E. March 6th, Guillemots and Razorbills, thousands at Isle of May: "They have remained ever since they came, which is unusual; but some days more than others."—J. A. March 6th to 30th, ever increasing numbers of Razorbills and Guillemots; greatest rush of arrival at Isle of May on 30th. April 4th, multitudes, but all left at 4 p.m.; Isle of May. April 8th, multitudes in the morning. April 8th, multitudes, and now remain: "Arrived at night, as is usual when they intend to remain."—J. A. April 22nd, Puffins, which breed at Pentland Skerries, first arrived on 22nd. May 6th, at Pentland Skerries, a flock of Guillemots flying E. May 29th, flocks all day flying E. June 6th, six Guillemots flying W. July 8th, a flock flying E. at Pentland Skerries. September 5th, all rock birds seen last at N. Unst on this date. November 19th, forty or fifty Cormorants seen flying S. at 4 p.m. Query: "Are those the birds which were roosting on Isle of May in September and October, or passing birds?"—J. A. H. B. December 12th and 13th, large numbers; and again on 29th, at Isle of May. Unusually abundant in Firth of Forth, with Little Auks and Puffins, in January, 1885.

Our report on the E. coast of Scotland includes all schedules between February 1st, 1884, and January 31st, 1885, which have come to hand in time.*

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* It is important for me to have all schedules dating as near as possible to January 31st in each year returned as filled up to date, as the work of arranging the large amount of material is much simplified if *all* schedules are to hand as soon after the last entry as possible.

EAST COAST OF ENGLAND.

Schedules were sent to thirty-eight stations, lighthouses and light-vessels, on the East Coast of England, and returns have been received from twenty-six.

Independent reports have been received from Malmo, Sweden; Stevns Fyr (lighthouse of Stevns), Zealand; and from Heligoland. Also from several land stations on the East Coast, namely Northumberland coast, Seaton-Carew, Redcar, Flamborough, Spurn, Great Cotes (Lincolnshire), Blakeney and Cley, Wells and Cromer (Norfolk), Yarmouth and the Isle of Thanet; altogether thirty-seven reporting stations against thirty-five in 1883. The total number of schedules sent in is seventy, a considerable increase on previous years, and the labour of arranging, tabulating and reporting thereon has been considerably increased.

The schedules received from the lightkeepers are very satisfactory; they register an immense amount of special information relating to the passage of migrants in the spring and autumn of 1884; the entries are so numerous, and the mass of materials so large, that it is impossible to give more than the general results of the collected observations.

The notes from land stations, courteously placed at our disposal by independent observers, many of whom are practical ornithologists of long standing and repute, add greatly to the value of the report, and go far to establish the approximate correctness of the details as given in the separate remarks on each species.

Our thanks are due to Frank R. Newton, Professor H. Lütken, H. Gätke, T. H. Nelson, C. Donald Thompson, Matthew Bailey, W. Eagle Clarke, the Rev. H. H. Slater, Philip Lawton, J. H. Gurney, J. F. D. Power, M. Vaughan, and Lord Clifton, for kind co-operation and assistance, either in direct communication or by access to their unpublished field notes, some of which will probably subsequently appear in the Journals and Proceedings of various Natural History Societies.

The greatest number of schedules received from any one station are nine from Mr. Thomas H. Cutting of the Inner Farn Lighthouse, and four from Mr. Owen Boyle of the Languard Lighthouse.

The east coast stations included in this report are as follows, those making returns being marked with a star (*) :—

*Longstone L.H.†	Thomas O. Hall.
*Inner Farn L.H.	Thomas H. Cutting.
*Tees L.V.	Henry Harbord.
*Coquet Island L.H.	William Evans.
*Whitby High L.H.	John Odgers.
*Flamborough Head L.H.	Charles Hood.
*Spurn L.H.	James B. Smith.
Spurn L.V.	
*Outer Dowsing L.V....	J. N. Utting & W. Stock.
*Inner Dowsing L.V....	William King.
*Dudgeon L.V.	John F. Warder.
Llyn Wells L.V.	
*Hunstanton L.H.	William Westmoreland.
*Cromer L.H....	C. H. Overton.
*Leman & Ower L.V....	John Artis & John Bowen.
Hasbro' L.H....	
*Hasbro' L.V....	J. Nicholas & B. V. Darnell.
*Newarp L.V....	C. Campbell & W. Rees.
*Winterton L.H.	John Watson.
*Cockle L.V.	Charles Perfrement & E. Cole.
*Orfordness L.H.	W. Willey Woodruffe.
*Corton L.V.	Isaac H. Johnson.
*Shipwash L.V.	Thos. Rundell Martin.
*Languard Point L.H.	Owen Boyle.
Galloper L.V.	
*Kentish Knock L.V.	Samuel Pender & W, Elsdon.
Swin Middle L.V.	
Tongue L.V.	
Nore L.V.	
North Foreland L.H.	
*Goodwin L.V.	J. Rees.
*Gull L.V.	Francis Harvey & J. Jenkins.
South Sand Head L.V.	

† For nature of light, position, and distance from the nearest land, see report for 1880.

*East Side L.V. ... ... Edward le Gallais & W. Nicholls.
*Varne L.V. ... ... J. Jacobs.
South Foreland L.H. ... ...
Cāsquets L.H. ... ...
*Hanois L.H. (Guernsey) Geo. Freeman, C. Williams, & F. G. Cutting.

SEPARATE NOTES ON EACH SPECIES.

Turdus viscivorus, Mistletoe Thrush.—Great Cotes, Sept. 23rd, great many young on passage. Redcar, Oct. 4th, 8 a.m. [N.W.[5]], flocks coming in. Longstone L.H., Nov. 12th, a few; Dec. 9th, a few; and Jan. 4th, 1855, some. Heligoland, Oct. 7th, one; Nov. 22nd, several along with Blackbirds, Fieldfares, and Ring Ouzels, wind W., strong, with snow squalls.

T. musicus, Song Thrush.—Spring, 1884: Farn, L.H., March 6th to May 1st, Thrushes at intervals. Coquet L.H., March 20th, all day. Autumn: Aug. 21st, Spurn, already on the move up the coast; sparingly at coast stations in September, but large numbers throughout October. A rush on to coast from the Farn Islands to Yarmouth between the 18th and 24th of Oct., and again from Nov. 4th to 12th. Great Cotes, Nov. 22nd, a rush. Many also came in at Whitby on Jan. 10th, 1885. Heligoland, Sept. 18th, first, and a few through the month; throughout October, but in less number from the 22nd to 30th, and on to Nov. 10th; great many 22nd and 28th, and a few at intervals to Dec. 24th.

T. iliacus, Redwing.—Spring, 1884: Longstone L.H., March 14th, S. misty, several round lantern. Autumn: Spurn, a few in the last fortnight in September. Isle of Thanet, Sept. 30th, first. Between the Farn Islands and Hasborough L.V. at various stations from Oct. 1st to Nov. 15th; rushes on Oct. 21st to 24th, wind S. and S.W., and Nov. 12th, 13th and 15th. Heligoland, Oct. 7th to 18th; 19th, early, flights of hundreds; 22nd and 23rd, great numbers; last on Nov. 16th.

T. pilaris, Fieldfare.—Spring, 1884: Last at the Spurn, twenty on May 9th. Autumn: The first at Farn L.H. Oct. 15th, and between this date to Jan. 10th, 1885, at intervals at stations covering the whole east coast. In fact, since the middle of October to the second week in the new year, Fieldfares, Redwings, Thrushes and Blackbirds, have been coming in at intervals, young birds first, and the old later in the year. Unusually large flights of Fieldfares are recorded at inland

stations in December and January. Heligoland, Oct. 14th, first; 19th, early, flights of hundreds; 29th, great many, also caught at night at lighthouse; Nov. 22nd and 28th, great many; also Dec. 1st, 24th, and 30th (S.W. still overcast), on the latter day very large numbers.

T. varius, White Thrush.—Heligoland, Oct. 3rd, one caught; 23rd, one seen (certain).

T. migratorius, Red-breasted Thrush.—Heligoland, Oct. 14th, N.W., windy and rain, one seen in cliff, quite close.

T. merula, Blackbird.—Spring, 1884: At the Northumberland stations from March 14th to 20th, many, wind W. and S.W. Orfordness L.H., May 18th, 6 p.m., three struck. Autumn: Great Cotes, Sept. 12th, some young cocks. At numerous stations between the Farn Islands and Hanois L.H., Guernsey, in October, and marvellous numbers in November with the like lateral range; Nov. 11th, 12th, and 13th, an almost continuous rush night and day, with S.E. winds and a low pressure area in Western Europe.* Great Cotes, Nov. 26th, first old cocks with yellow bills. Hasborough L.V., Jan. 19th and 20th, 1885, easterly winds, Blackbirds all night. Farn L.H., Jan. 6th to 19th, several on island. Longstone L.H., Jan. 4th, N., rain, passing to land. Migration much in excess of previous reports. Heligoland, first, Oct. 11th, and at intervals to Nov. 5th, up to which date no old cock had been seen; last on Nov. 10th and 12th. The migration of this species at Heligoland is very light compared with the English coast.

T. torquatus, Ring Ouzel.—Spring, 1884: Farn Islands, March 23rd to 29th, a few. Autumn: first seen, Sept. 9th,

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* This rush appears to have, in a greater or less degree, covered the whole of the east coast. At the Longstone L.H., Farn Islands, it is recorded by our observer, Mr. T. O. Hall, as follows:—"Nov. 10th, all kinds of small birds coming all day, one Snipe seen, wind southerly, hazy weather; at 8 a.m., three grey crows to E. 11th, birds still coming, all kinds, or rather the small kind, two Snipe, and one Woodcock. 12th, great rush of Blackbirds, Ouzel, a few Mistletoe Thrushes, Redwings, Lapwings, Grey and Golden Plover, as well as Woodcock and Snipe. This is the greatest rush of the season, and lasted all day up to 10 p.m.; complete absence of Starlings; wind all day from S. to S. by W., after midnight changing to N.W." There was no corresponding rush across Heligoland during the same period.

Spurn, some. Redcar, Oct. 24th to 26th, a few. Longstone L.H., Nov. 12th, rush. Migration considerably under average. Heligoland, Sept. 16th, some; 17th, sprinkling; 19th, pretty numerous; Oct. 11th, first old birds; last observed, Nov. 22nd.

Saxicola œnanthe, Wheatear.—Spring, 1884: March 19th, Farn L.H., first. Hanois L.H., Guernsey, 28th and 30th, midnight, many round lantern; April 7th, many during morning in two's and three's, to W.; 18th and 21st, the same. Farn Islands and Teesmouth, May 3rd to 17th, many going S.E. to N.W. Autumn: Farn L.H., between August 6th first, to Redcar, Oct. 26th last, great migration along the coast between these dates, from north to south, both of home birds and others which had crossed the North Sea. Spurn, Sept. 13th, "rush," many all day; last Wheatear seen in Great Cotes marshes, near the Humber, on November 7th. Heligoland, August 1st and 3rd, a few; 5th, twenty or so, and then a considerable migration to the 22nd, when the movement for the time ceased, commencing again on the 27th, and was continued through September to the 19th; the first old birds on October 3rd, and again some young on the 12th, when the passage appears to have ceased. Immense numbers covered the island on the 12th of Sept. and three following days, wind E.S.E., clear and fine.

S. stapazina, Black-throated Wheatear.—Heligoland, Oct. 2nd, one, probable, not obtained.

Pratincola rubetra, Whinchat.—No English notes. Heligoland, August 15th, some on cliff; 17th, great numbers; 18th and 19th, the same, and on to the end of the month, through September to the 18th, when the migration ceased; astounding numbers with others on the 14th and 15th Sept.

P. rubicola, Stonechat.—Spurn, August 29th, considerable immigration of young birds; Sept. 26th, many old. In North-east Lincolnshire we have had a sprinkling of old birds about the sheep-folds in turnip fields all through the winter.

Ruticilla phœnicurus, Redstart.—Spring: Farn Islands, April 7th, one; 29th, S.E., many. Malmo, Sweden, May 5th, two or three in garden. Autumn: Spurn, Aug. 25th, first, to Thanet, Oct. 5th, last on passage up coast; rushes on Sept. 4th, 11th, 12th, and 17th. Heligoland, August 11th, first, young

birds; enormous passage on 20th and 21st, easterly, hot and fine; through September, and an astounding rush from the 12th to the 15th; last, Oct. 1st and 2nd.

R. titys, Black Redstart.—One, as reported by Mr. Gurney, shot at Blakeney, about the middle of October, by Mr. Seebohm. Heligoland, Oct. 23rd, some; 25th, less. Three to four weeks later in migration than Common Redstart.

Cyanecula suecica, Arctic Bluethroat.—Cley and Blakeney (as observed by Mr. F. D. Power), September 8th, W.N.W., one; 11th, E. to N.N.E., one shot showing red spot fairly well; 12th, E. to N., eighty to one hundred, also many Redstarts,—examples obtained were immature, and in the proportion of six males to one female; 13th, E.N.E., about four dozen left on banks; 15th, E., eight or ten; 16th, S.E., and later N.E., four or five. Spurn, Sept. 15th, two seen, one shot; 18th, three shot and others seen. Isle of Thanet, Sept. 15th, two seen on some arable land by Lord Clifton. Heligoland, Aug. 31st, some young; Sept. 1st and 3rd, pretty numerous; 9th and 10th, very many; 11th and 12th, very great numbers, and less to 18th; 19th and 20th, many. It is interesting to compare these dates with the arrival on the English coast.

Erithacus rubecula, Redbreast.—Spring: Farn Islands, March 11th, several. Longstone L.H., April 28th, E.N.E., two. Autumn: At several stations between the Farns and mouth of Thames; first at Shipwash L.V. August 14th, large numbers at noon to W.; the last at Hasborough L.V., Nov. 12th, one at night on deck. Heligoland, Sept. 19th, a few; 21st, great many, and on to the end of month, and at intervals through October to November 12th, rush, if any, Oct. 12th. Migration appears to have ceased at the same date both on English coast and at Heligoland.

Sylvia cinerea, Whitethroat.—Heligoland, Aug. 19th, young, the first, very red; 21st and 23rd, a few; Sept. 11th, some.

S. atricapilla, Blackcap.—Spring: Farn L.H. April 29th, several. Autumn: Thanet, Sept. 3rd to 5th. Heligoland, Oct. 12th, a few.

S. hortensis, Garden Warbler.—Spring: Malmo, Sweden, May 14th. Autumn: Thanet, Sept. 3rd to 13th. Spurn L.H., 17th, S. E., one struck and killed, several seen on following day; many Redstarts, Pied Flycatchers, and Bluethroats, also

arriving on night of 17th. Heligoland, Aug. 27th, a few (no *curruca*); Sept. 1st and 9th.

S. nisoria, Barred Warbler.—Spurn, Aug. 28th, one, a female of the year, obtained by Mr. Slater (See 'Zoologist, 1884, p. 489). Cley, Norfolk, Sept. 4th, N.E., one, which was also an immature female, shot by Mr. F. D. Power.*

Regulus cristatus, Goldcrest.—Spring: One recorded from Spurn, Coquet, and Farn Islands, last fortnight in March, and at the Longstone L.H., one on April 28th. Autumn: First at Redcar, August 28th, and last at Great Cotes, early morning of Nov. 22nd, N.E., blowing strong on previous night; the migration covering eighty-seven days, and extending over the whole coast between the Farn Islands and Hanois L.H., Guernsey. Rushes took place on August 14th, Sept. 27th to 30th, Oct. 21st to 22nd, and Nov. 16th. At Hanois L.H., Sept. 30th, from 2 a.m., the windows of the lantern were crowded with Goldcrests. On Oct. 21st and 22nd, great numbers each night round the lanterns of Dudgeon and Leman and Ower L.V.'s, wind S.S.E., and on Nov. 16th many during night round the lantern of Hanois L.H. Malmo, Sweden, Sept. 22nd, in flocks, but only remained one day. Heligoland, Oct. 3rd, great many; 8th, many during afternoon, and at intervals to 25th; greatest number on 12th and 25th Oct.; migration very small compared with the English coast. Great Cotes, March 8th, 1885, Goldcrests on return migration to coast.

R. ignicapillus, Firecrest.—Heligoland, Oct. 25th, some.

Phylloscopus rufus, Chiffchaff.—The earliest spring occurrence is Haileybury College, March 17th, four Chiffchaffs and two Willow Wrens. Autumn: Spurn, August 25th, two. Heligoland, Sept. 15th, commencing, and a few at intervals to Oct. 25th.

P. trochilus, Willow Wren.—Isle of Thanet, July 31st, on autumn passage. Spurn, August 20th to Sept. 10th, constantly in small numbers, working southward up the coast. Heligoland, Aug. 4th, young pretty numerous, and at intervals to Sept. 18th; rushes August 17th and 21st; Sept. 10th to 15th, very great numbers.

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* This makes the third occurrence of the Barred Warbler in the British Isles. The first is recorded near Cambridge by Professor Newton, Proc. Zool. Soc., 1879, p. 219.

P. sibilatrix, Wood Wren.—Thanet, Aug. 5th to 30th, on passage.

Hypolais icterina, Icterine Warbler.—Cley, Norfolk, Sept. 11th, E. to N.N.E., one obtained by Mr. F. D. Power. Heligoland, Aug. 18th, S.E., with Pied Flycatchers and Whinchats, numbers.

Acrocephalus phragmitis, Sedge Warbler.—Spurn L.H., Aug. 21st, three struck and two killed at midnight; from Aug. 20th to Sept. 10th is noted, by Mr. Slater, as the commonest of the Warblers there, found amongst *Scirpus maritimus* and in every ditch. Heligoland, Aug. 11th, some.

Locustella nævia, Grasshopper Warbler.—Heligoland, Sept. 10th, S.E., slight, a few, with a crowd of Pied Flycatchers, Willow Wrens, Redstarts, Bluethroats, Ortolan Buntings, Blue-headed Yellow Wagtails, Tree and Meadow Pipits, Wheatears, and Whinchats.

Accentor modularis, Hedgesparrow.—Spurn, Aug. 20th, and through September abundant at intervals. Tees L.V., 21st, two, with a Linnet, Redbreast and Titlark on board, leaving to N.W. at 7 a.m. Spurn and Great Cotes, 23rd to 26th, swarming. Heligoland, Sept. 18th, some, the first; 21st and 30th, pretty numerous; at intervals in October to 24th.

Acredula rosea, British Long-tailed Titmouse.—Thanet, Oct. 15th, "one flock, the only one seen this autumn." Redcar, Oct. 22nd, 6.30 a.m., flock of twenty to S.W.

Parus major and *cæruleus*, Great Titmouse and Blue Titmouse.—Great Cotes, Sept. 15th and 18th, both very plentiful. Redcar, Nov. 15th, S.E., moderate, a few Blue Tits. None over Heligoland this autumn, which is somewhat remarkable; the same applies to *Parus ater*.

Troglodytes parvulus, Wren.—Spring: Farn Islands, through March to April 3rd, several. Spurn, 27th, 6 p.m., two. Outer Dowsing L.V., May 12th, four on board. Autumn: Shipwash L.V., Aug. 14th, large numbers, with Redstarts, at noon to W.N.W. Flamborough L.H., Aug. 19th, 11.30 p.m., Wrens and Wheatears, six or eight struck. Some observed at Spurn, Outer Dowsing, Hasbro', and Shipwash, L.VS., in September. Are last recorded at Hanois L.V., Oct. 24th, 1 a.m., S.S.E., Wrens round lantern; and a single bird on the 26th at the Cockle L.V. Heligoland, Oct. 2nd, pretty numerous; 3rd, great many;

7th, less; 8th, in afternoon, many; 21st, some; 25th, great many.

Motacilla alba, White Wagtail.—Heligoland, Aug. 23rd, pretty many young; Sept. 30th, some; Oct. 3rd, old birds.

M. lugubris, Pied Wagtail.—Spring: Farn L.H., March 8th, a pair. Whitby L.H., 16th, the first seen, at daylight. Tees L.V., 24th, four to N.W. Coquet L.H., April 6th, a pair. Autumn: Spurn, Sept. 1st, flock of about sixty. Heligoland, Oct. 16th, one.

M. melanope, Grey Wagtail.—Thanet, Aug. 29th, first seen. Spurn, a few during September. Great Cotes, Sept. 11th, young birds swarming in bean-fields;* 27th, some. October, old birds very plentiful.

M. flava, Blue-headed Yellow Wagtail.—Thanet, Aug. 16th, 5 p.m., one. Heligoland, Aug. 21st, a few for some days past, and at intervals to the end of the month; immense numbers between the 10th and 15th of September; 16th to 18th, less; and afterwards still less up to the 30th.

Anthus pratensis, Meadow Pipit.—Spring: Farn L.H., April 2nd, 10 a.m. to noon, S.S.E., flocks going west. Autumn: Cley, Norfolk, Sept. 17th, great arrival. Spurn and North-east Lincolnshire, 23rd to 26th, immense numbers, turnip and potato fields crowded. Farn L.H., Dec. 14th, large flock to S.W. Heligoland, Sept. 4th, hundreds of thousands, all in great haste, the rest of the month a great many each day; very large number in October, from the 1st to the 12th, and then less up to the 25th; the last on Nov. 16th.

A. cervinus, Red-throated Pipit.—Heligoland, Sept. 15th, two or three seen and heard by C. Aückens, the Heligoland birdstuffer; 16th, one shot; 18th, one shot, a young bird, another heard; 19th, two shot, more seen; 20th, three seen; Sept. 30th and Oct. 1st and 12th, one each day.

A. trivialis, Tree Pipit.—Spurn, Aug. 20th to Sept. 10th, common. Thanet, Sept. 3rd to 14th. Heligoland, Aug. 16th, a few, the first, and at intervals to end of month; from Sept. 4th

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* Bean-fields near the coast are always a very favourite haunt in the early autumn of the soft-billed insect-feeders. I have frequently at this season found such places swarming with various Warblers, Wagtails, and Pipits, the situation affording the very best cover as well as an abundance of food in the numerous insects and their larvæ which infest the bean plant in its latter growth.

to 14th, very great numbers; particularly on the 12th, 13th, and 14th, enormous numbers passing, then in less numbers to the end of the month; Oct. 1st and 2nd, still a few.

A. campestris, Tawny Pipit.—Heligoland, Sept. 4th, E.S.E., strong, one, came with the great rush of *A. pratensis* and *trivialis*.

A. richardi, Richard's Pipit.—Heligoland, Sept. 3rd, 4th, 5th, and 25th, Oct. 3rd and 6th, one each day; Oct. 12th, two.

A. obscurus, Rock Pipit.—Spurn, Sept. 27th, in pairs, passing southward. Cley, Norfolk, October, 3rd week, about 400 seen by Mr. Gurney. Yarmouth, November, last week, great many, eighteen caught alive in clap-nets. The main body pass south up the coast during the last fortnight in October. Heligoland, *A. rupestris* (Nilsson), Sept. 9th, a few; Oct. 9th to 14th, and last on 19th; greatest numbers on Oct. 11th, 12th, and 19th.

Lanius excubitor, Great Grey Shrike.—Spurn, Oct. 8th and Nov. 30th, one each day. Near Brigg, Lincolnshire, Oct. 18th, one. Thanet, Nov. 20th, 3.30 p.m., N.W., wet and windy, one. Heligoland, Oct. 6th, one; 15th, three; 22nd, one. Cromer, March 23rd, 1885, one shot, close by was a hedgesparrow it had suspended (J. H. G.).

L. major, Pallas's Great Grey Shrike.—Heligoland, Sept. 17th, one; 30th, two; Oct. 11th, one; 12th, one; 16th, one, very fine example; 22nd, ten or twelve, six caught; Nov. 4th, one.

L. collurio, Red-backed Shrike.—Heligoland, Aug. 23rd, a few young birds; one, an immature bird, shot in Holderness on Aug. 19th.

Muscicapa grisola, Spotted Flycatcher.—Numerous entries in the schedules of "Flycatchers," a general name for all the small insect-feeders; it is impossible to pick out those which refer to this species exclusively. Heligoland, Aug. 21st, some, the first, and sparingly in September to the 17th.

M. atricapilla, Pied Flycatcher.—Spring: Malmo, Sweden, May 6th, two. Autumn: Thanet, Aug. 10th, first; Sept. 10th, swarmed; 30th, last seen. Spurn, Sept. 4th, first. Cley, Norfolk, the same date, one shot, another seen. Great Cotes, Sept. 13th E., first seen. Spurn, 17th, great many. Heligoland, Aug. 10th, some, the first; 11th, 12th, 13th, and 17th, pretty numerous; and an enormous rush, 18th to 21st; again, from the 10th to the 15th of September, in marvellous numbers; less to 18th, when migration ceased.

Hirundo rustica, Swallow.—Spring: Hanois L.H., April 7th, two, Flamborough and Whitby on the 8th, and Farn Islands on the 9th, a gradual movement north, at the rate of 150 English miles a day. Malmo, Sweden, first, on April 21st. Great numbers were observed at Hanois L.H., passing north up to May 11th; and at the Tees L.V., on the 8th, 9th, 11th, and 17th of May, large numbers all day from S.E. to N.W. Languard L.H., June 21st, a flock too numerous to count. Autumn: Tees L.V., July 1st, six, at 9.30 p.m., came on board and remained all night. From the middle of August and throughout September Swallows were passing south up the coast in parties of five to fifteen, and at Spurn, on Sept. 26th, 27th, 28th, continuous each day by two's and three's. In North-east Lincolnshire, some on Nov. 3rd. The last reported is from the Farn Islands, a single bird, on Nov. 8th. Heligoland, Sept. 4th, astounding numbers.

Chelidon urbica, Martin.—Spring: Outer Dowsing L.V., May 12th, four to W. Languard L.H., July 16th, all day, far too numerous to count. Heligoland, Sept. 3rd, 10 p.m., great many; 4th, astounding numbers.

Cotile riparia, Sand Martin.—Spring: Malmo, Sweden, May 14th, first. Antumn: Spurn, Aug. 25th, one; 26th, three; 27th, hundreds, after this in less numbers to Sept. 3rd; 26th, 27th, and 28th, still a few, with Swallows, each day to the south. Heligoland, October 1st, in great haste passing on.

Carduelis elegans, Goldfinch.—Orfordness L.H., Jan. 12th, 1885, flock of fifteen to twenty, one caught. Heligoland, Nov. 28th, 29th, 30th, some, with the great rush of Greenfinches; Siskin (*Chry. spinus*), Nov. 1st, some.

Ligurinus chloris, Greenfinch.—Great Cotes, Oct. 7th, great many in flocks. Immense numbers crossed Heligoland between the 28th of November and 26th of December: "Enormous numbers all the month, more than ever seen before." The greatest flights, Nov. 28th to 30th and Dec. 20th to 26th. Unusually large numbers are recorded by Mr. J. H. Gurney ['Zoologist,' 1885, p. 150], about Norwich and also about Brighton in the winter of 1884–5.

Coccothraustes vulgaris, Hawfinch.—Inner Dowsing L.V., Oct. 22nd, 4 p.m., "one on board, and then to W." This is the third year in succession that this species has occurred at this station.

In 1882, on Oct. 20th, two on board all night; and in 1883, on Nov. 2nd, one struck the lantern.

Passer domesticus, House Sparrow.—Spring: Outer Dowsing L.V., April 9th, six on board. In the autumn great numbers are recorded at stations between the Tees L.V. and Hanois L.H., Guernsey, between Sept. 9th and Nov. 25th, the bulk crossing south of the Humber; rush, Oct. 14th and 15th, and on to the 19th. Shipwash L.V., Oct. 14th, large numbers to W.N.W. Kentish Knock L.V., 15th, all day, "hundreds on board, many dropping into the sea." Goodwin L.V., 15th, 21st, and 25th, shoals. Hanois L.V., 18th, 9 to 12 a.m., flocks, thirty to forty, to south; and many other notices too numerous to mention. Heligoland, Aug. 21st, a flight, the first; 22nd, the same; Sept. 30th, several great flights.

P. montanus, Tree Sparrow.—The migration covered the whole of the East coast, the bulk crossing south of the Humber. First recorded at Whitby L.H., Sept. 9th, immense flocks of both the Tree and Common Sparrow, and from this date up to Nov. 25th at the majority of the East coast stations, ten of them light-vessels. Rushes, Shipwash L.V., Oct. 15th, continuous all day. Leman and Ower L.V., Nov. 4th, 3 p.m., great numbers, E. to N.W., thirty coming on board. Great Cotes, 25th, flock of 500 to 600. Heligoland, Oct. 22nd, great many; Nov. 1st, smart migration.

Fringilla cœlebs, Chaffinch.—The migration is very extensive, and covers the whole of the East coast, the bulk, as in the two preceding cases, crossing south of the Humber. Through September and October immense numbers are recorded as crossing, the first flocks young of both sexes and old females; old cocks later. Rushes, Farn Islands, Oct. 16th. Orfordness L.H., 15th and 18th. Hasbro' L.V., 21st, all night. Farns and Hasbro' L.V., Nov. 2nd; also at Redcar, Nov. 20th, N.E., very stormy. Direction of flight W. to W.S.W. Heligoland, an immense migration at intervals, between Sept. 19th and Nov. 1st; great rushes, Sept. 29th, and Oct. 1st, 23rd, and 24th. On Feb. 22nd, 1885, very large flights in Great Cotes, marshes apparently composed entirely of the young of the previous year, the young cocks being in every stage of development to the mature summer plumage.

Fringilla montifringilla, Brambling.—Coast of Northumber-

land, Oct. 5th, first. Thanet, 20th, two; Nov. 11th, common; Dec. 3rd, first, in small flocks. Heligoland, Sept. 19th, a few, and at intervals to Nov. 30th; rushes on 23rd and 24th of Oct., S.E., clear; and Nov. 30th, southerly, with snow.

Linota cannabina, Linnet.—From Sept. 9th to the end of October in great numbers, far too numerous to separately record. The immense arrivals in the autumn appear to move gradually south up the coast, comparatively few lingering in North-east Lincolnshire after the completion of the stubble ploughing. Heligoland, Oct. 1st, some, and to Dec. 1st; rushes on Oct. 2nd, astounding numbers; 24th, very great many; and the three last days in November and first of December.

L. rufescens, Lesser Redpoll.—Heligoland, Nov. 22nd, one.

L. flavirostris, Twite.—Heligoland, Oct. 21st, flight, fifty to sixty; 23rd, pretty numerous; 24th and 30th, great many; Dec. 1st, many.

Carpodacus erythrinus, Rosy Bullfinch.—Heligoland, Sep. 9th, E.N.E., one, young.

Pyrrhula europæa, Bullfinch.—Spring: Tees L.V., March 15th, one to E.; April 3rd and 30th, one each night. Autumn: Same station, Oct. 8th, two; Nov. 25th, one.

Loxia curvirostra, Crossbill.—Heligoland, Aug. 16th, N., eleven.

Emberiza miliaria, Corn Bunting.—Heligoland, Oct. 25th, ten to twenty, "great many for this place;" Nov. 3rd, ten to fifteen. The Corn Bunting is always a very scarce migrant across Heligoland.

E. citrinella, Yellowhammer.—Heligoland, Oct. 12th, some; and a few at intervals to the 25th.

E. hortulana, Ortolan Bunting.—Cley, Norfolk, Sept. 12th, E. to N., one, an immature female, shot by Mr. F. D. Power. Heligoland, a very large migration, commencing August 16th, and continued to Sept. 19th; rushes on August 18th to 23rd and the 31st; Sept. 3rd, "a few fine old males"; 4th, great many, all in great haste, and on the 5th again old birds; Sept. 10th to 15th, enormous numbers, and then less to the 19th.

E. pusilla, Little Bunting.—Heligoland, Oct. 5th, N.E., fresh, two.

E. schœniclus, Reed Bunting.—On the Holderness, Lincolnshire and Norfolk coasts the arrival was very large in September

and October; the migration commencing the first week in September. At Great Cotes, October 30th, still very numerous. Tees L.V., Oct. 15th, "three came on board, one remaining a week." Heligoland, Sept. 26th, "a few during last days;" Oct. 6th, some; 7th, many; 11th, very great many; 12th, astounding numbers; 14th, many; 15th, same; 21st to 25th, less; 30th, some. This very well represents the general order of migration at the island; first a few, then a rush for some days culminating in astounding numbers, after which there is a gradual falling away till the migration of that special species ceases altogether.

Calcarius lapponicus, Lapland Bunting.—Cley, Norfolk, Sept. 17th, N.E., one, a young male, obtained by Mr. F. D. Power. Great Cotes, Nov. 27th, one, a mature male ('Zoologist,' 1884, p. 484); Nov. 11th, one near Brighton, shown in the flesh to Mr. Gurney. Heligoland, Sept. 19th, a few; Oct. 3rd, a few; 7th, many; 12th and 16th, some.

Plectrophanes nivalis, Snow Bunting.—Spring: Farn L.H., March 11th, two on island; Longstone L.H., June 7th, one on rock. Autumn: Northumberland Coast, Sept. 15th, one shot; sparingly in October, at the more northern stations, and tolerably plentiful from Spurn to Yarmouth, in the latter half of November; rushes, Nov. 24th, 25th and 26th, into Humber district. Great Cotes, marshes, also at this date, Nov. 25th, sharp frost, Pink-footed Goose; great flights of Golden Plover, Snipe large numbers; immense flocks of Linnets, Greenfinches, Larks, Chaffinches and Tree Sparrows, fields covered; Nov. 26th, still sharp frost, scores of old male Blackbirds, fields swarming with small birds as before, with the addition of flights of newly-arrived Wood Pigeons, which appear a smaller race than our homebred birds. All this time Snow Buntings, chiefly old birds. Tees L.V., Dec. 7th, 16th and 17th, large flocks to S.W. and N.W. Heligoland, Oct. 16th first; 29th, many; Nov. 5th, large flights; 29th, great many.

Sturnus vulgaris, Starling.—Spring: Spurn L.H., March 3rd, 3 a.m. to daybreak, misty, S.S.E., numbers round lantern. Outer Dowsing L.V., 16th, a flight; 17th, continuous noon to 5 p.m., going W.N.W. to E.S.E. Autumn: First at Whitby L.H. Sept. 2nd, great many for several days. Spurn, 20th, all day to S. Immense rushes in October more or less over the

whole coast line, and during the latter half of the month almost continuous night and day. At Leman and Ower L.V., Oct. 24th, 5 p.m., 5000, S.E. to N.W., fifty killed. Coquet Island L.H., many round lantern all through November. Heligoland, in duration and number the migration probably exceeds that of any other species, commencing with young birds on June 28th, and continued at intervals to the end of the year; enormous numbers crossed between the 14th and 25th of October, especially on the 19th, "immense numbers;" 20th, "clouds of enormous numbers;" 21st, "astounding;" 22nd, "astounding flights like clouds passing on," and so on in less numbers to the end of the year.

Pastor roseus, Rose-coloured Pastor.—Aug. 30th, one shot near Spurn, and another reputed to have been seen. Mr. Slater, who saw this bird, says it was in very dusky plumage, and its colouring very much that of an old Hooded Crow, but it was an adult female, and dissection showed that it had bred this season.

Corvus monedula, Daw.—In large flocks at several stations in October and November, frequently mixed with Rooks. Heligoland, first on October 6th; 12th, many; 15th, several flights; 24th and 25th, astounding numbers.

C. corone, Carrion Crow.—Large numbers appear to have come over in October. There are innumerable entries in the schedules of "black crows" and "grey crows," and of course it is quite impossible to say in each case whether Carrion Crows or Rooks are intended. In those instances where the flocks are mixed, grey and black Crows together, the latter are probably *C. corone*. Rooks, as a rule, keep to themselves when migrating, or mixed with Jackdaws.

C. cornix, Hooded Crow.—Spring: Outer Dowsing L.V., March 1st, 8.30 a.m, flight to S.S.E. from W.N.W., and the same on April 3rd and 4th. Farn L.H., April 11th, eleven to W. Great Cotes, May 8th, last. Autumn: First at Flamborough L.H. on Oct. 3rd, two in field near lighthouse. Thanet, 5th, one from N.E.; then on the 6th at Tees L.V., Flamborough, Spurn, Hunstanton L.H. and Hasborough L.V., a few; during the latter half of October the rush appears to have been continuous night and day; and at the Outer Dowsing L.V., Nov. 1st, 2nd, and 3rd, a continuous rush N.E. to S.W., and also at other stations, but in

less numbers to Nov. 15th; Redcar, Dec. 3rd, some; and Spurn, at intervals, a few to end of the year; the main body came in from Flamborough Head to the coast of Essex, comparatively few north of Flamborough or south of the Thames; the chief lines of flight S.E. to N.W., E. to W., and S. to N.W. Heligoland, Oct. 2nd, first flight; 5th and 6th, numbers; and on to 14th, when thousands crossed; 15th, none; 18th, N., great flights; 19th less; 20th, great numbers; 21st, astounding numbers; less on 22nd and 23rd, and then very great again on 24th and 25th; Nov. 1st, and on 2nd and 3rd, very great migration late in afternoon, and at intervals to 28th.

C. frugilegus, Rook.—Spring: Newarp L.V., Feb. 10th to 13th and 22nd to 23rd, 7.30 to 9 a.m., great numbers of "black crows" to eastward, and at intervals to April; 23rd, large numbers of both black and grey Crows in same direction; Larks, Sparrows, and Chaffinches also; at the same date, Feb. 23rd, large numbers of Crows and Larks passing *to the west.* Shipwash L.V., 13th, 8 a.m., flights of thousands to S.E. Leman and Ower L.V., from March 4th and through April, great numbers of Crows to E. from W. Autumn: Oct. 5th to Nov. 12th, recorded at nine stations south of Humber, from Spurn to Orfordness; an almost continuous rush night and day last fortnight in October. Heligoland, Oct. 6th, first; 14th, great numbers; 15th, some; 23rd, two monstrous flights in afternoon; 24th and 25th, astounding numbers (see General Remarks); Nov. 3rd, during afternoon.

C. corax, Raven.—Languard L.H., June 22nd, 6.30 a.m., two.

Alauda arvensis, Sky Lark.—Spring: At Leman and Ower L.V., March 4th, great many E. to W., also many birds, Chaffinches and others, to April 9th, likewise E. to W. Outer Dowsing L.V., March 7th, Larks and Starlings. In the autumn Larks are recorded first at the Varne L.V., Sept. 6th; last at Goodwin L.V., Dec. 23rd, a few about lantern all night; the migration covering 109 days, and including twenty-four stations between the Farn Islands and Hanois L.H., fourteen of which are light vessels. From Sept. 30th to the middle of Nov. enormous numbers crossed the North Sea either directly from E. to W., a point S. of E. to other N. of W., and from the 15th of Oct. to the end of the month the rush appears to have been nearly continuous night and day; the great rush from the 20th to the 23rd. At Heligo-

land the migration commenced on the 22nd of Sept. with pretty large flights, and continued at intervals to the end of the year; on the 21st October an enormous migration over the sea on each side of the island; night of 24th to 25th, great rush, 500 caught at lighthouse.

A. arborea, Woodlark.—Heligoland, Oct. 6th, a few; also on 8th and 11th; 13th, twenty to thirty; 15th, some; 22nd and 30th, many; Nov. 2nd, some; and the 28th, many.

A. cristata, Crested Lark.—Heligoland, Sept. 30th and Oct. 1st, one each day.

Otocorys alpestris, Shore Lark.—Yarmouth, Nov. 11th, two; 12th, one. Blakeney, 28th, two. Spurn, two or three about the same date. Heligoland, Oct. 2nd, first young; 6th, flights eight to ten; 7th, 8th, and 9th, some flights; 12th, large flights; 14th, flights of hundreds; 15th and 16th, some; 18th, large flights, thirty to forty; 20th, in afternoon, a flight, fifty to sixty; 21st, twenty to thirty; 24th, great multitudes; 29th and 30th, less; Nov. 2nd and 3rd, many; 10th and 11th, hundreds constantly, and at intervals to Dec. 1st in large numbers. When we consider the very few which appear on this side of the North Sea compared with the vast numbers passing Heligoland in the autumn, it becomes a matter of surprise where they all go, and in what lands they find winter-quarters.

Cypselus apus, Swift.—Spring: Hunstanton L.H., May 6th, two. Cromer L.H., July 28th, 3 a.m., two struck lantern. Last seen, Thanet, Sept. 7th, and Spurn, Sept. 8th. Heligoland, Sept. 3rd, a few.

Caprimulgus europæus, Nightjar.—Spurn, Sept. 2nd and 3rd, one each day. Thanet, Sept. 5th, one. Heligoland, Aug. 17th, one.

Dendrocopus major, Great-spotted Woodpecker.—Heligoland, Sept. 16th, one, young.

Jynx torquilla, Wryneck.—Heligoland, Aug. 21st, first; 22nd, very many on cliff; 23rd, many.

Alcedo ispida, Kingfisher.—Orfordness L.H., March 25th, 9 p.m., E.N.E.,[6] one struck and killed. North-east Lincolnshire, September and October, great many.

Upupa epops, Hoopoe.—Farn, April 28th, 2 p.m., E.N.E., one on island. Longstone L.H., 29th, one seen.

Cuculus canorus, Cuckoo.—Spring: Great Cotes, April

27th, first recorded. Hunstanton L.H., May 6th. Spurn L.H., 7th; and Whitby L.H., 8th, wind W.S.W., a progression northward at the rate of forty miles a day. Farn L.H., May 23rd, calm S.E., heard calling overhead at midnight. Autumn: Thanet, July 15th, first on autumn passage. Tees L.V., 29th, one caught on board. Farn L.H., August 3rd, young Cuckoo on rock. Spurn, young plentiful during third week; last seen on 25th. Last seen at Thanet, Sept. 12th. Heligoland, early in July, some old; 15th to 20th, daily young birds; Aug. 1st to 3rd, daily young; 17th same; 22nd, each day.

STRIGIDÆ, Owls.—Long-eared Owl, *Asio otus*, Thanet, Dec. 16th, two, evidently fresh arrivals. Short-eared Owl, *A. brachyotus*. Spring: Tees L.V., March 15th, one to E. Coquet L.H., April 21st, W.N.W., one. Longstone, L.H., April 28th, one. Autumn: Languard L.H., Aug. 20th, 6 a.m., one. Redcar, 21st, E., two. From Sept. 17th to 23rd, at four stations. In October, some at Spurn and Redcar. Thanet, Dec. 3rd, one. Coquet L.H., 9th, one. Farn L.H., Jan. 23rd, one, a very large example, caught in a trap, baited with a Redshank it had killed. Rush, first week in October and 11th. Tengmalm's Owl, *Nyctala tengmalmi*, Oct. 18th, one shot at Holmpton, Holderness ['Naturalist,' 1884, p. 110]. Heligoland, *A. brachyotus*, Sept. 21st, first; Oct. 3rd, 11th, 14th, some; very few compared with other years. *N. tengmalmi*, Oct. 3rd, one shot; 7th, one.

FALCONIDÆ, *Buteo*.—First fortnight in September, a few "large Hawks" along coast, some of which would probably be Buzzards. Goshawk, *Astur palumbarius*, Sept. 29th, one seen on the wing by me, when driving between Easington and Skeffling, Holderness. Sparrowhawk, *A. nisus*, Spring: Newarp L.V., April 23rd, two, to E. Autumn: Dudgeon L.V., Aug. 12th, one, died on board; at various stations, several, during the first fortnight in September. Peregrine Falcon, *Falco peregrinus*, Spurn, Sept. 9th, one, in pursuit of a Tern; Oct. 2nd, 8 p.m., one, an adult male, captured on mast-head of fishing-smack 'Surprise,' of Grimsby, between the Outer Dowsing L.V. and Cromer. Kestrel, *Tinnunculus alaudarius*, Spurn, Sept. 4th to 10th, many; on 8th, seven seen, and on 10th, ten in one field, by the Rev. H. H. Slater. Very common in North-east Lincolnshire in September. Thanet, Sept. 12th to 17th, evidently a considerable passage of Hawks. Heligoland, *Buteo vulgaris*,

Buzzard, Sept. 4th and 5th, some. *Archibuteo lagopus*, Rough-legged Buzzard, Sept. 15th, one shot; Nov. 10th, several small flocks; 14th, several. *Haliaëtus albicilla*, White-tailed Eagle, Sept. 15th, one, young, shot. *Accipiter nisus*, Sparrowhawk, Aug. 15th, some, young; 21st, more numerous; Sept. 4th, 4 p.m., great many, young; 5th and 6th, a few towards evening; 10th and 11th, some; 18th, numerous, young birds; 21st, some; Oct. 1st, 2nd, 5th, 6th, 14th, and 21st, some. *Pernis apivorus*, Honey Buzzard, Sept. 18th, some, young. *Falco peregrinus*, Peregrine Falcon, Oct. 1st to 15th, a few; 21st, some. *Falco æsalon*, Merlin, Oct. 6th, 7th, and 14th, some. *Tinnunculus alaudarius*, Kestrel, Aug. 17th, young; Sept. 10th, 11th, and Oct. 6th, 7th, some.

Sula bassana, Gannet.—Farn L.H., March 7th, several all day to N.E.; 10th, the same, and hundreds all day on 15th and 16th April. Longstone L.H., March 16th, some at 5 p.m., to north, and daily to 26th all day, but no large flocks, and more or less daily to April 15th. Autumn: Farn L.H., July 2nd, first young seen. Redcar, Sept. 24th to end of month, very numerous at sea, mainly young.

Ardea cinerea, Heron.—At many stations in the autumn, but it is impossible to say whether immigrants or not. Herons have been very common in the autumn and winter in all the low-lying districts in North-east Lincolnshire. On the evening of February 3rd, 1885, fourteen, flying close together, passed over me within half-gunshot, steering their course in the direction of the nearest "beck."

Botaurus stellaris, Bittern.—One shot in Gedney Marsh on Nov. 14th; one in Yorkshire, four or five in Lincolnshire, one in Norfolk, and one in Suffolk, during the first week in December, and one near Brigg, Lincolnshire, in January, 1885. Snow and severe frosts on Continent from Nov. 28th to Dec. 2nd. It is probable that the bulk of these visitors were shot within a week of their arrival on our shores.

Platalea leucorodia, Spoonbill.—Hollesley, Suffolk, four, early in August, two of which were shot by a "fortunate" gunner. [Zool., 1884, p. 471.]

ANSER, Geese.—Spring: Whitby, May 8th, eighteen wild geese, from N. to S. Autumn: first recorded from Whitby L.H., Sept. 8th, three large flocks to S., flying half a mile from shore.

The main arrival from Redcar to Humber district on the 1st, 2nd, and 3rd Oct. Coquet L.H., Nov. 4th, many flocks all day to N. Shipwash L.V., Dec. 1st and 2nd, flights to W. Heligoland, *Anser cinereus*, Grey-lag Goose, Oct. 10th, a flight, one shot, a young bird; 11th, some; Nov. 30th, numerous.

CYGNUS, Swans.—March 8th, Outer Dowsing L.V., one black Swan to S.S.E. A black Swan was shot on Sunk Island [Humber] in the autumn. Redcar, Oct. 5th, nine to N. Yarmouth, Nov. 20th, four on Breydon Water. Corton L.V., Dec. 4th and 6th, two.

Tadorna cornuta, Sheldrake.—Spring: April 12th, Farn L.H., four on rocks; first young at sea on June 22nd. Twigmoor, Lincolnshire, May 23rd, pair of old birds and seven young on pond. Redcar, Dec. 3rd, flock. Farn L.H., Jan. 21st, 10.30 to noon, flocks to N., one flock numbering thirty-eight.

Mareca penelope, Wigeon.—Redcar, Oct. 28th, first seen, several.

Anas boschas, Wild Duck.—Spring: Outer Dowsing L.V., March 9th, 9 to 3 p.m., Wild Ducks continuous, from N.W. to S.E. Autumn: Redcar, October 3rd to December 6th., large numbers in various directions, also at most coast stations. Heligoland, *Querquedula crecca*, Teal, Sept. 1st, great many, also 2nd and 3rd.

Harelda glacialis, Long-tailed Duck.—Farn L.H., Jan. 12th, 1885, several swimming all day near island.

Somateria mollissima, Eider Duck.—Spring: Coquet L.H., April 28th, twenty, of which four were males off island. May 8th, many Ducks and Drakes, and at the same station in December many off island. Farn L.H., Jan. 11th and 12th, 1885, hundreds swimming in lee of island. The first young were seen on June 13th. The King Eider, *Somateria spectabilis*, was seen at the Farn Islands on April 9th, and at the Longstone on May 4th. This bird, which has now regularly appeared in the locality for several years, was unfortunately shot at on June 12th, and was not seen afterwards.

Œdemia nigra, Common Scoter.—Gull L.V., April 27th, 8 a.m. to noon, continuous to N. Autumn: Great numbers at several stations, moving in various directions.

Mergus merganser, Goosander.—Redcar, Oct. 6th, one to N.W.; Nov. 19th, flock; Dec. 8th, two. *M. serrator*,

Merganser, a few observed off Redcar at sea between Oct. 12th and 25th.

Columba palumbus, Ring Dove.—Orfordness, Sept. 27th, 9 p.m., one struck, killed. Languard, 29th, 8 a.m., eight flying very quick W. to N.E. Between 21st of October and the end of November there was an immense immigration covering the East Coast between Berwick and Yarmouth; rushes Oct. 21st to 25th, Nov. 2nd and 20th to 28th, continuous for nine days. Mr. T. H. Nelson says "there was an enormous arrival of these birds in the Redcar neighbourhood about the middle of November. I have not noted all down in the schedule, as I did not see them all myself, but am told that from the 20th to end of month there was a continuous migration; a friend shot about fifty in three days between Redcar and Marske; there was also a considerable influx into the Bishop Auckland district about the same time." In Northumberland the numbers were so large as to attract general attention. In Lincolnshire the arrival was immense, also on the Norfolk coast. Hundreds were shot on their first arrival, their crops and stomachs containing no food, invariably the case with all newly arrived migrants. Heligoland, Oct. 3rd, flight of sixty; 12th, some; 25th, great many, twenty to thirty in a flight.

C. œnas, Stockdove.—Great numbers crossed in the autumn with the ring doves, mixed or in separate flocks. In November I saw one flock of four or five hundred in the Great Cotes marshes, an enormous flight considering the limited number bred in the district. From the beginning of December to the end of February large flights have daily resorted to fields of young clover, or those recently laid down with permanent grasses.

Turtur communis, Turtle Dove.—Thanet, Oct. 4th, last seen.

Rallidæ, *Rallus aquaticus*, Water Rail.—There appears to have been a very considerable immigration between the third week in September and at intervals to the end of November, and through the autumn they were exceedingly plentiful in all likely localities on the East Coast. Heligoland, Oct. 25th, some; 30th, two or three. *Porzana maruetta*, Spotted Crake. Redcar, Sept. 2nd, one. Heligoland, Oct. 23rd, one. *Crex pratensis*, Corn Crake. Spring: Whitby, May 2nd, W.S.W., 3 a.m., first heard. Autumn: Great Cotes, Sept. 4th; and last near Spurn, Oct. 27th and 28th, one each day. *Gallinula chloropus*, Moor-

hen, Great Cotes, Nov. 18th, N. strong, sleet and rain, great numbers on the streams, drains, and "blowwell" ponds, also in gardens and localities where I have rarely seen them; probably altogether ten to one in excess of normal numbers; very few observed after this date. Heligoland, Oct. 23rd, some.

Charadrius pluvialis, Golden Plover.—Spring: Longstone L.H., March 14th, S., with Lapwings round lantern. Farn L.H., July 27th, first flock. Tees L.V., Aug. 25th, large flock to N.W.* Great Cotes, the great flight of old birds on 25th and 26th Nov. Heligoland, Aug. 1st to 3rd, N.N.W., numerous; 5th to 25th, daily, some young; 31st, 11 p.m., many; Sept. 23rd, still many; Oct. 12th, some; Nov. 30th, old birds.

Squatarola helvetica, Grey Plover. Spurn, Aug. 24th, about twenty adults in summer plumage; Sept. 5th, about one hundred and fifty, of which a third were in summer plumage, probably all adults (H. H. S.). Cley and Blakeney, Sept. 5th, several, the first seen (F. D. P.)

Ægialitis hiaticula, Ringed Plover.—Spring: Spurn, April 19th, nest with four eggs. Longstone L.H., May 4th, nest with four eggs. Very numerous on migration at Spurn, Aug. 20th to Sept. 10th, there was a small ploughed field on which probably a thousand collected every night (H. H. S.). Heligoland, June 28th, several hundreds young. *Ægialitis cantiana*, Kentish Plover. Languard L.H., Aug. 12th, one.

Eudromias morinellus, Dotterel.—Spring, Great Cotes, May 8th, seven. Autumn: Cley and Blakeney, Sept. 5th, W.N.W., five, one alone showing some rufous on lower parts of breast and flanks (F. D. P.). Easington, near Spurn, Oct. 11th and 13th, seven. Heligoland, August 31st, some.

Vanellus vulgaris, Lapwing.—Great flights on to the coast throughout October to Nov. 12th. Rushes, Coquet L.H., Oct. 8th, great numbers all day; Redcar, 25th, continuous to N.W.; Tees L.V., 22nd and 23rd, large flights to N.W.; and in November at Redcar on the 1st and 3rd throughout the morning; 5th, all day; 8th, same. Hasboro' L.V., 12th, 10 p.m. to sunrise on 13th, and Jan. 3rd, 1885, night, quantities round

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* See footnote Report for 1883, p. 50, on the flight of Golden Plover northward in August.

lantern. Heligoland, July 27th to 28th, great numbers, and to Aug. 25th, daily.

Strepsilas interpres, Turnstone.—Farn, Aug. 13th, S.S.W., hundreds in flocks all day. Spurn, Aug. 20th to Sept. 10th, plentiful and increasing in numbers.

Himantopus ostralegus, Oyster-catcher.—Spurn, Aug. 20th to Sept. 10th, a few at intervals.

Phalaropus fulicarius, Grey Phalarope.—Felixstowe, Sept. 9th, one shot. Longstone L.H., Nov. 2nd, one swimming in pool near lighthouse.

Scolopax rusticula, Woodcock.—Spring: Spurn, March 15th, one. Farn Islands, 25th, one; and again on April 28th. At Twigmoor, Lincolnshire, young Woodcocks were hatched early in May.* Autumn: The first is recorded at Coquet L.H. on Sept. 1st; the last at Hasboro' L.V., Jan. 20th, 1885, one caught at night. The migration covered 142 days, the bulk arriving between Oct. the 5th and Nov. 22nd. What is usually termed by sportsmen the 'first flight' came in on the nights of the 5th and 6th of October, wind easterly; another flight between the 10th and 16th; the 'great flight' on the night of the 28th, N.W. strong, with rain and colder weather; on the 29th, forty were shot in one locality on the Lincolnshire coast; there was again a second "great flight" from the 11th to 13th of November. Independent of these rushes, Woodcocks have been dropping in either singly or by two's and three's throughout the last three months in the year, and more or less over the whole coast line. Altogether the migration has been much more desultory and prolonged than any previously recorded by us. Heligoland, Oct. 6th, some; 12th, some; 14th, twenty shot; 15th, about thirty shot; 19th, less; 23rd, some; 25th, twenty to thirty shot; 29th, forty to fifty on island—night, about ten caught at lighthouse; 30th, thirty to forty caught or shot; Nov. 1st, some; 3rd, full moon, numbers flying about island, two or three together; 12th, ten or twelve shot; 16th,

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* Woodcocks bred in Great Britain invariably leave in the autumn in August and September, and their place is taken some weeks later by others coming from the north. Woodcocks found on the East Coast in March are either such as have wintered in these islands and are now on their return journey, or in some cases our English birds returning to their nesting haunts.

ten or fifteen shot; 22nd, several; 28th, twenty shot and two caught; 30th, some; Dec. 26th, one.

SNIPE, *Gallinago major*, Great Snipe. Farn, Aug. 31st, 5 a.m., calm, one to W. Cley and Blakeney, Sept. 15th, E., one shot. *G. cœlestis*, Common Snipe, Kentish Knock L.V., Sept. 9th, several about, one caught, were passing W. Cley and Blakeney, Sept. 16th, a considerable arrival. There was a very considerable rush on to the East Coast in the last fortnight in October, and again in November, from the Farn Islands to Yarmouth; three distinct rushes at the dates Nov. 4th to 5th, S.W., half gale; 10th to 14th, S.E. winds; and 23rd to 29th, N. and north-easterly winds; generally are reported to have been very plentiful in the Eastern Counties in November and December. *Limnocryptes gallinula*, Jack Snipe, very few records; the first July 31st, Farn L.H., one at noon to W.; a few at Great Cotes and Spurn last half of October. In recent years this little bird has become extremely scarce in the Humber district, and in localities where it was once very common; compared with former times—twenty years ago—I do not see one in ten now. Heligoland, Common Snipe and Jack Snipe, Oct. 17th, N.W., strong, some; 25th and 30th, some.

Tringa alpina, Dunlin.—Spurn, Aug. 20th to Sept. 10th, great many, some flocks containing thousands, and in August many in almost full summer plumage (H. H. S.) Near Kilnsea, Sept. 26th, at early morning, I saw an immense migratory flock on the beach which appeared very tired; many of these still retained the black pectoral patch entire or more or less broken. Great Cotes, a flight of 1000 to 1500 have resorted almost daily at high-water, throughout the winter, to a fallow field near the Humber.

T. minuta, Little Stint.—Blakeney and Cley, Sept. 5th, W.N.W., two, and one Temminck's stint; also, Sept. 12th, E. to N., one Temminck's Stint, very restless, and constantly uttering its queer cricket-like notes (F. D. P.). Spurn, Sept. 26th, four Little Stints.

T. striata, Purple Sandpiper.—Spring: Farn, March 28th, many all day on rocks. Autumn: Redcar, Oct. 16th, one; and 20th, four shot. Blakeney, third week in October, one. Heligoland, Sept. 11th, E.S.E. some.

T. canutus, Knot.—Redcar, July 23rd, S.W., first flock;

Aug. 6th, S. to S.W., a few. Spurn, Aug. 20th to Sept. 10th, tolerably numerous, some examples obtained were in almost full summer plumage; Sept. 26th and forward through Nov., great many large flights at ebb tide crossing from Lincolnshire coast to Spurn muds. Heligoland, enormous numbers of Waders crossed Heligoland from the end of the third week in July to the middle of September; July 20th, night, enormous numbers to W.; 22nd, same; 22nd to 23rd, night, and to 25th, immense numbers; Sept. 16th, flight of *tringa, totanus, charadrius,* all young.

T. subarquata, Curlew Sandpiper. Thanet, Aug. 16th, five. Spurn, 24th, one small flock. Blakeney, Sept. 5th, about a dozen; altogether exceptionally scarce.

Machetes pugnax, Ruff.—Blakeney, Sept. 3rd, one Ruff; Spurn, 4th, about a dozen; Stourmouth, 10th, three; Great Cotes, 12th, twenty or more; 18th, one Ruff and seven Reeves.

Calidris arenaria, Sanderling. Spurn, Aug. 20th to Sept. 10th, fairly abundant, in small flocks; some obtained early bore traces of red on their plumage (H. H. S.); Sept. 26th, a few. Heligoland, Sept. 3rd, evening, great many over head.

Tringoides hypoleucus, Common Sandpiper.—Spurn, Aug. 20th to 26th, a great many in the drains and also on the shore, but they soon left, none seen after 26th (H. H. S.). Great Cotes, Sept. 1st, tolerably numerous on autumn passage. Heligoland, July 22nd to 23rd, thousands.

Helodromas ochropus.—Green Sandpiper.—Spurn, Aug. 20th to Sept. 10th, tolerably common; "generally saw some every day at first, and once five together, but latterly they were less plentiful (H. H. S.). Heligoland, July 22nd to 23rd, Redshanks, Common Sandpiper, and Green Sandpiper, thousands.

Totanus glareola, Wood Sandpiper.—Mouth of Stour, Aug. 16th, one seen. Spurn, Aug. 21st, one, a female.

T. calidris, Redshank.—Spurn, Aug. 20th to Sept. 10th, rare at first, but rapidly increasing; on Sept. 1st, flock of about 200 (H. H. S). Blakeney and Cley, Sept. 6th, tolerably numerous, with other Waders from 5 to 8.30 a.m. to W. Heligoland, July 1st, 2nd and 3rd, solitary birds; 22nd to 23rd, thousands.

T. canescens, Greenshank. Spurn, Aug. 20th to Sept. 10th, "during the first fortnight, a pair, or latterly one, at a small pond every day" (H. H. S.). Cley and Blakeney, Sept. 5th, one,

immature, shot; 10th, S., "very fine, several in two's and three's, flying high and very restless" (F. D. P.); altogether have been unusually scarce on East Coast. Heligoland, Aug. 18th, young birds.

Limosa lapponica, Bar-tailed Godwit.—Redcar, July 22nd, E. light, one; 29th, several flocks.

Numenius phæopus, Whimbrel.—Redcar, July 1st to 15th, a few passing, and on to Aug. 13th. Great Cotes, July 30th, first heard on passage. Cley and Blakeney, Sept. 9th, rather many to W. The last are recorded from Tees L.V., Dec. 5th, five to N.E. Heligoland, nights of July 20th to 23rd, W., enormous and countless numbers passing on; 27th to 28th, great many; August 1st to 3rd, enormous; 10th, some; and on the 31st in greater or less number.

Numenius arquata, Curlew.—Hanois L.H., July 10th, many young all day about rocks. Flamborough L.H., 31st, during night. Spurn, Aug. 20th to Sept. 10th, very plentiful. Great Cotes, Sept., first fortnight, young birds most abundant. Wells, Norfolk, 27th, flock of about 200. North-east Lincolnshire, October 30th, about sixty old birds in turnip-field. Heligoland, Aug. 19th, young; 31st, many; Nov. 13th, 10 p.m., astounding numbers passing over.

STERNINÆ, *Terns*.—Sandwich Tern (*S. cantiaca*).—Coquet L.H., April 16th, eight seen. Farn Islands, April 19th, noon, N.N.E., first heard; 30th, fifteen flying about breeding-place; May 18th, collected at breeding-places; 25th, first eggs; June 13th, first young. Longstone L.H., Sept. 1st, left and gone to sea. Arctic Tern (*S. macrura*), Farn Islands, May 5th, first heard; 22nd, assembled at breeding-places; 25th, first eggs; left about the first week in September, a few lingering to October 13th. *Terns generally*.—Redcar, August 20th and 30th, Sept. 1st and 2nd, large numbers to south. Spurn, Sept. 3rd, large mixed flocks of Arctic, Common, and some Lesser Tern daily to south; less towards end of month. Redcar, Nov. 7th, one.

LARINÆ, Gulls.—Herring Gull (*Larus argentatus*), Whitby L.H., Feb. 13th, S.[6], at daylight Gulls first came to cliffs; May 18th, first young on wing; Aug. 29th, old and young left cliffs for sea. Heligoland, Dec. 31st, enormous numbers of old birds. Lesser black-backed Gull (*L. fuscus*), Longstone L.H., March 15th to 29th, assembling at nesting-haunts; at Farn

L.H., on 30th, Black-headed Gull (*L. ridibundus*), Twigmoor, May 22nd, many young on ponds. Little Gull (*L. minutus*), Whitby, July 15th, one seen on River Esk along with Kittiwakes, by Mr. Backhouse. Yarmouth, Nov. 11th, one shot, bird of second year. Heligoland, Oct. 30th, hundreds to lee of island. *Gulls generally.*—Flamborough, July 4th, great many grey Gulls and Kittiwakes to S. Whitby, Sept. 9th, many to S. Spurn, Sept. 25th to 28th, S.W. strong, great many young Herring and Lesser black-backed Gulls continuously to south; they passed the cliff point to the north of Easington lane end at the average rate of seventy in fifteen minutes; the exact proportion of old and young in that period was nineteen adult and forty-eight immature Lesser black-backed Gulls, one Kittiwake, and two Terns; occasionally a few young Herring Gulls passed, but the vast majority were immature *L. fuscus*. On the average, 280 Gulls passed in the hour, all going south in the teeth of a strong S.W. wind; rate of progress probably thirty miles an hour, and average distance from coast 150 yards. This movement was continuous for at least four days, and for ten hours on each day. Cromer, Oct. 11th, Mr. Gurney writes "We have had another of those strange passages of Gulls which I have noticed at Cromer before. I reckoned that this afternoon eighteen hundred passed in three-quarters of an hour, going W.N.W., and probably ten thousand after 12 o'clock." Redcar, Oct. 20th to 23rd, Gulls, chiefly young, *L. fuscus* and *argentatus*, going N.W. in flocks during morning; 24th, Kittiwakes very common at sea. Orfordness, Nov. 10th, Gulls all day in flocks of twenty to thirty, N.E. to S.W. Coast of Durham, 27th, *L. fuscus* and *argentatus*, immature birds in flocks of twenty to forty, flying north.

Stercorariinæ, Skuas.—Farn, July 23rd, two chasing Gulls. Grimsby, Sept. 7th, one Richardson's Skua (*S. crepidatus*). Spurn, 26th, one Pomatorhine Skua (*S. pomatorhinus*), the black variety. Redcar, Oct. 4th, one adult (black variety) shot at sea; 24th, two at 2 p.m. to E. Heligoland, Oct. 30th, some.

Procellariidæ, Petrels.—Galloper L.V., Oct. 2nd, one Stormy Petrel (*P. pelagica*). Coquet L.H., 4th, two caught at lantern. Dudgeon L.V., 18th, one caught. Longstone L.H., 23rd, two

caught "one the large sort, the other small." Hasboro' L.V., Nov. 6th, one; 13th, three. Redcar, 17th, 11 a.m., N., one. Heligoland, *P. pelagica*, Oct. 22nd, one; 29th, two or three; 30th, one; Nov. 3rd, one. *P. leucorrhoa*, Nov. 10th, one shot. *Fulmarus glacialis*, Fulmar, Heligoland, Oct. 22nd, one; 29th, two or three.

COLYMBIDÆ, Divers.—Farn, April 7th, Great Northern Diver *C. glacialis*, two to north; July 12th, two to north; Nov. 8th, five to N.; Jan. 19th, 1885, two off island.

PODICIPITIDÆ, Grebes.—*P. fluviatilis*, Little Grebe, Spurn, Nov. 10th, 8 p.m., one killed at low light. Heligoland, Oct. 25th, several young shot.

ALCIDÆ, Auks.—Longstone L.H., Feb. 20th. Guillemot (*Lomvia troile*), flying about breeding-places, but not settling; on March 22nd they settled for the first time; but on the 26th, owing to the cold E. wind, all went out to sea, returning again to the rocks on the 29th with a W. and S.W. wind. Farn L.H. March 16th, hundreds flying round nesting-quarters. Tees L.V., July 2nd, "a Guillemot came to the light-ship and remained three weeks, disappeared suddenly, probably shot." Redcar, Nov. 12th to 15th, great numbers to E. all day; Nov. 10th, Black Guillemot (*U. grylle*), young bird shot. Longstone L.H., April 17th, Puffin (*Fratercula arctica*), first seen. Redcar, Nov. 18th, 19th, 20th, Little Auk (*Mergulus alle*), great numbers at sea. Farn Islands, Jan. 12th to 26th, 1885, great many off islands. Heligoland, Nov. 13th, cliff crowded with Guillemots, never so early before; Dec. 17th, W., thousands on cliffs, as in summer time.

Professor Chr. Fr. Lütken, of the Universitetets Zoologiske Museum, Copenhagen, again forwards a list of birds killed against the lighthouse of Stevns, on the projecting part of Zealand, marking the limit between the Baltic and Oresund. The list has been drawn up by Mr. Autander, a physician living in the neighbourhood of the lighthouse. In forwarding the list, Mr. Autander observes that he has every reason to think it very incomplete, as the interest bestowed upon it by the officers of the lighthouse is rather indifferent; all birds fit to be eaten are probably disposed of in this way, and do not always come under his observation.

STEVNS FYR (LIGHTHOUSE OF STEVNS), 1884.

Night to—			
Febr.	16th.	Alauda arvensis	1.
,,	18th.	Ditto	1.
,,	19th.	Ditto	1.
,,	21st.	Sturnus vulgaris	1.
March	13th.	Erythacus rubecula	1.
,,	29th.	Scolopax rusticula	1.
,,	,,	Tringa alpina	1.
May	1st.	Sylvia hortensis	2.
,,	6th.	Saxicola œnanthe	2.
,,	15th.	Sylvia cinerea	1.
,,	,,	S. curruca	1.
,,	,,	Phylloscopus rufus	6.
,,	,,	Ruticilla phœnicurus	2.
,,	,,	Muscicapa atricapilla	2.
,,	,,	Sylvia hortensis	1.
July	23rd.	Hæmatopus ostralegus	1.
,,	26th.	Turdus musicus	3.
,,	,,	Emberiza miliaria	1
,,	,,	Fringilla montifringilla	1.
,,	,,	Jynx torquilla	1.
,,	,,	Saxicola œnanthe	5.
,,	30th.	Turdus musicus	7.
,,	,,	Motacilla alba	3.

Night to—			
July	30th.	Saxicola œnanthe	2.
,,	,,	Scolopax rusticula	1.
Oct.	5th.	Fringilla cœlebs	1.
,,	6th.	Passer montanus	1.
,,	,,	Regulus cristatus	2.
,,	11th.	Turdus musicus	1.
,,	13th.	Turdus iliacus	1.
,,	17th.	Regulus cristatus	2.
,,	22nd.	Sturnus vulgaris	1.
,,	,,	Turdus iliacus	1.
,,	23rd.	Alauda arvensis	1.
,,	,,	Erythacus rubecula	1.
,,	25th.	Sturnus vulgaris	3.
,,	,,	Emberiza citrinella	2.
,,	,,	Fringilla montifringilla	1.
,,	,,	Regulus cristatus	1.
,,	,,	Alauda arvensis	1.
Nov.	20th.	Anas boschas	1.
,,	29th.	Linota linaria	1.
Dec.	8th.	Alauda arvensis	1.
,,	10th.	Turdus viscivorus	1.
,,	17th.	Alauda arvensis	1.
,,	,,	Turdus iliacus	1.

NOTES ON INSECTS AT THE LIGHTHOUSES.

Under date of June 30th, Mr. Owen Boyle, of the Languard L.H., reports, "a Sky Lark followed by a string of Bees. The plaintive cries of this poor bird first attracted my attention, it flew so close that I almost caught it; it was closely pursued by a large number of Bees, and in its fright took to the water followed by its pursuers. When last seen it was making for the Essex coast." July 31st, at 10.14 a.m., "a cloud of mosquitoes pitched in this neighbourhood, similar to those seen in India; most of them were carried off at noon by a light breeze."

Mr. Charles Williams, of the Hanois L.H., Guernsey, says, under date of July 10th, "A great quantity of large ants with wings passing. A great many settled on the rocks and about the lighthouse. I have only once seen them before like this, when I was stationed at the South Bishop Rock off the coast of Wales."

Heligoland, by Mr. Gätke.—Night, July 2nd to 3rd, thousands of *Plusia gamma*; 3rd, myriads of Dragonflies; night, 21st to 22nd, great numbers of *Bombyx neustria*, east to west;

22nd to 23rd, the same; 27th to 28th, numerous flights passing on.

General Remarks.

The report for the East Coast of England shows that a great migration was carried on for six months in the autumn and winter of 1884-5. The schedules returned indicate that no one place had special preference, and that the inflow of migrants was equally distributed over the entire coast line.

The southerly movement of migrants was well established in July, and from this time to the end of the third week in January, 1885, there has been a steady flow, with slight intermissions, of birds either passing up the coast to the south or moving directly inland, the vast majority coming from the east across the North Sea, and moving westward or in westerly directions. Occasionally there have been heavy rushes or persistent bird waves continuous for days, and even weeks.

The periods of migration occupied by different species vary greatly, from four weeks to as many months; no general rule can be laid down in this respect.

As a rule, the young birds of the year migrate independently of the old, and some weeks in advance; there are, however, frequent exceptions to this, more especially late in the season, when the flocks are sometimes composed of old and young. With some of our shore birds, as Grey Plover, Knot, Sanderling, a few old birds, still in summer plumage, arrive very early in the season, some weeks later the main body of the young, and lastly the bulk of the adults, the latter having then assumed the ordinary winter dress.

The lines of migration have been those followed in previous years, the vast majority of immigrants coming either directly from east to west or from points south of east to others north of west. The records of birds travelling from points north of east are comparatively exceptional.

There was an immense and continuous rush, a gigantic feathery tide, on to the coast from the middle of October (15th) to the end of the month, migrants arriving continuously night and day. This rush was continued at some of the stations with but slight intermissions to the middle of November.

The last fortnight in October is the average annual period of what may be called the "great rush" of immigrants on to the East Coast of England.

In previous reports we have drawn attention to the fact of a migration in opposite directions going on at the same time over the North Sea. This is observed more particularly at south-eastern stations, on light vessels moored at many miles distance from the nearest land, where, during the spring and autumn, the same species of birds, as Crows, Rooks, Jackdaws, Starlings, Larks, Sparrows, Buntings and Finches, are recorded crossing the North Sea moving from opposite quarters and passing both towards the British coast and towards the Continent. This apparently abnormal movement in opposite directions is again indicated in the autumn and spring of 1884-5.

In a recent article in the 'Encyclopædia Britannica,' Professor Newton tells us that "there is scarcely a bird of either the Palæarctic or Nearctic regions, whose habits are at all well known, of which much the same may not be said; and hence we are led to the conclusion that every bird of the Northern Hemisphere is, to a greater or less degree, migratory in some part or other of its range." There can be no doubt that in this passage Professor Newton indicates the probable explanation of the special phenomena attending a double migration as recorded from time to time in our reports.

With very few exceptions, the vast majority of our British birds, such as are generally considered habitual residents, the young invariably, the old intermittingly, leave these islands in the autumn, their place being taken by others, not always necessarily of the same species, coming from more northern latitudes, or from districts of Eastern Europe, where, on the approach of winter, the conditions of locality and food-supply are found less favourable to existence. These immigrants on the approach of spring leave, moving back to the Continent on the same lines, but in the reverse direction to those traversed in the autumn; at the same time, also, our own birds return from the Continent to their nesting-quarters in these islands. To give one instance, out of many which might be cited, that of the Blackbird:—In the autumn, during September, the young of the year leave their summer-quarters, and their place is shortly taken by others, likewise young birds, coming in October and

November from districts which lie directly east or south-east of Great Britain. Should our English winter prove generally severe, or even partially so, our old birds will also leave, and in their place we have an influx of old Blackbirds from the Continent, pushed forward by similar causes. In the last autumn and winter, which has been exceedingly variable, with many sudden changes of temperature, our East Coast reports show an enormous migration of this species to have taken place. This commenced on September 12th, and was continued at intervals throughout October, becoming nearly continuous in November; after this intermittent, in throbs and pulsations, up to the end of the third week in January, 1885. These influxes of old birds correlate with sudden changes of temperature and outbreaks of severe weather on the Continent. In the spring the continental visitors disappear, and our so-called resident Blackbirds come back to their nesting-quarters. In this way we have a regular interchange of birds in the spring and autumn,—a double migration, carried on twice a year between the British Islands and the Continent. As far as our knowledge extends the normal conditions of locality and climate over the whole area are such as do not necessitate a regular interchange of the members of their respective *avi-faunas*. There is apparently no reason why our Rooks, Starlings, Sky Larks, and Blackbirds should not be able to winter in England just as well as abroad; their not doing so, but persistently migrating, is suggestive of a regular succession of bird waves,—as one moves forward another quickly follows in its wake. The southern limit of autumn migration, in the individuals of any species, is in direct ratio to the breeding range; such as nest in southern latitudes move still further south, and thus make room for those of their sort which have nested further north. Such are the ordinary phenomena of migration, a movement which is as regular and persistent as the flow and ebb of the tide.*

* Migration is a voluntary, and not a compulsory, movement; and it must not be imagined that recurring bird waves actually push each other forward. Young Blackbirds and Thrushes leave some weeks in advance of the great rush of their continental allies; and it is well known that Woodcocks, which breed in Great Britain, leave in the autumn, before the arrival of the northern flights, a distinct interval elapsing between the two events—the going and the coming.

One of the last schedules received, at the time of going to press, from the Cockle L.V., off the Norfolk coast, records immense flights of Crows (probably Rooks), passing in a south-easterly direction to the Continent early in March, 1885, commencing on the 2nd at 7 a.m., in large numbers on the 6th at 6 a.m., and continuous from 6 a.m. to 8 a.m. on the 8th; large numbers again on the 9th at 5.30 a.m.

The notes under the head of separate species in the East Coast report for 1884, indicate several movements of special interest. Blackbirds, as has been already stated, have crossed the North Sea in extraordinary numbers, commencing on September 12th and throughout October, and immense numbers in November; on the 11th, 12th and 13th the rush appears to have been continuous, night and day, over the whole coast line; after this intermittent to the end of the third week in January, 1885.

Another very interesting feature is the occurrence of the Arctic Bluethroat in considerable numbers between September 8th and 16th; eighty to one hundred were observed in one locality on the Norfolk coast on the 12th.

The migration of the Gold-crested Wren was very pronounced. The first are recorded on August 28th, and after this at various stations in large numbers up to November 22nd. Eighty-seven days against ninety-two in 1882, and eighty-two in 1883. The visible migration of this little wanderer across Heligoland has been considerably below the average of other years.

Pied Flycatchers arrived in large numbers from August 10th to September 17th. Across Heligoland also there was a great migration between August 10th and September 30th.

Immense numbers of Ring Doves are shown to have crossed from the Continent between the 21st of October and the end of November. This immigration appears to have covered the coast between Berwick and Yarmouth. On our northern coasts for nine days, between November the 20th and 28th, the rush was continuous. Large numbers of Stock Doves also crossed during the same period.

The main body of the Woodcocks generally arrive in two flights, known to East-coast sportsmen as the "first flight," and after this the "great flight." In the autumn of 1884 the immigration of this species was most prolonged, commencing on

September 1st, and continued onward to January 20th, 1885, or 142 days. Four distinct rushes or flights are also indicated,—October 5th and 6th; another on the 10th to the 16th; a third, probably the "great flight," on the 28th; and again a very large flight between November the 11th and 13th. Independent of these there has been a constant dropping in by two or three together, or singly, throughout the autumn and winter. Woodcocks have also crossed Heligoland in the same desultory fashion; and the dates of the chief flights will be found to correlate closely with the rushes on to our East Coast.

In the latter part of November and early in December there was a considerable arrival of Bitterns on the East Coast, probably driven across by the severe weather on the Continent between November the 28th and December 2nd.

Besides the Bluethroats, already noticed, several rare and casual visitants have been recorded during the autumn. Two examples of the Barred Warbler, one at Spurn Point and another on the Norfolk coast. The Icterine Warbler, also on the Norfolk coast; and an Ortolan Bunting, likewise from the same locality. The Lapland Bunting, in Lincolnshire and Norfolk; Tengmalm's Owl, in Holderness; and a rose-coloured Starling, near Spurn.

Mr. Gätke's Heligoland notes, from June 28th to the end of the year, comprise 118 species, including, as usual, several rare visitors to the ornithological observatory:—Icterine Warblers on Aug. 18th; *Anthus richardi*, Sept. 3rd to Oct. 12th; *A. campestris*, Sept. 4th; *Carpodacus erythrinus*, Sept. 9th; *Anthus cervinus*, a great many, from Sept. 15th to Oct. 12th; *Lanius major*, in most unusual numbers, from Sept. 17th to Nov. 4th; *Alauda cristata*, Sept. 30th and Oct. 1st; *Saxicola stapazina* (?), Oct. 2nd; *Turdus varius*, Oct. 3rd, 12th and 23rd, one each day; *Emberiza pusilla*, Oct. 5th, two; *Turdus migratorius*, one on Oct. 14th; *Fringilla rufescens*, our English Redpoll, one on Nov. 22nd. Besides these large numbers of continental species, which are classed amongst the rare and occasional visitants to the British Islands, and whose line of migration is normally far to eastward of these islands, as *Emberiza hortulana*, *Motacilla flava*, *M. alba*, *Sylvia suecica*, *Anthus rupestris*, *Calcarius lapponicus*, *Otocorys alpestris*, *Nyctala tengmalmi*, *Ruticilla titys*, *Regulus ignicapillus*, and *Larus minutus*.

The great rush of birds crossed Heligoland during the last fortnight in October, and appears to have come directly across to our eastern shores. Mr. Gätke remarks, under date Oct. 24th, S.E., clear, fine, early rather cold, *C. cornix*, *frugilegus*, and *monedula*, monstrous numbers; *cornix* and *monedula* mixed in uninterrupted flight of ten and twelve minutes each, continued with but short interruptions or gaps; width as far as the eye could reach in northerly and southerly directions; and thus from 9 a.m. till 1 p.m. *Sturnus*, "a succession of clouds sweeping past overhead."

Speaking generally of migration during the month of October, "weather exceptionally fine; nearly no *curruca;* very few *rufa;* few *rubecula, accentor, regulus;* and *fringilla* but small numbers. Thrushes the same; not a single *Parus major* nor other Tits; Pipits also far below the usual numbers."

"Marvellously many *Anthus cervinus*, *Lanius major* and *excubitor*, and particularly *Corvidæ* and Starlings. In December, Greenfinches, enormous numbers all the month, more than ever been seen here."

Since the completion of the Report Mr. J. H. Gurney informs me that he has received from Mr. J. Barrett, of the Swin Middle L.V., the wing of a Garganey Teal with the date July 22nd, 1884. Dunlin, March 21st, 1885, and that of a Wheatear with the extraordinary date of Feb. 4th attached.

From the Dudgeon L.V. comes a schedule signed by Mr. T. W. Harrison, the entries ranging from Nov. 10th, 1884, to March 6th, 1885. On Nov. 10th about forty Carrion Crows going from S.E. to N.W.; considerable numbers of Larks on the nights of the 11th and 12th, about twenty being killed; on the 13th, two Woodcocks at 6.40 p.m., N.N.E.[3], misty, one killed; the same night a great rush of Larks, Blackbirds, Fieldfares and Starlings; "Black Crows" and Larks, also a few Thrushes, at intervals through January, all coming from easterly and going in westerly directions. On the night of Feb. 15th, E., Knot, Stint, Lapwing and other birds round the lantern all night. Night of March 4th, E.S.E., Lapwings and Starlings about lantern, and eight of the latter killed; on the night of the 5th, several Carrion Crows between 7 and 12 p.m., three killed. The Dudgeon L.V. is about thirty-five miles east of Skegness on the Lincolnshire coast.

WEST COAST OF SCOTLAND.

SCHEDULES were sent to thirty-four stations as before. We have received returns from fifteen.

Generally the returns are as well filled up as in previous years.

We have notes on about thirty-one species of land birds from this coast; about sixteen species of water birds; and of a few species of littoral or wading birds.

I have kept the spring and autumn movements distinct.

In the following list of stations we indicate the numbers of years in which each station has sent in returns, and the consecutive numbers of the stations, in the same way, and for the same reasons, that we have shown those in the report of the East Coast, and we also indicate the value and brilliancy of the lights at each.

Returns in 5 years.	1884.	LIST OF STATIONS.		Feet.	
3	*	81. Cape Wrath, Sutherland...	III.	400	W. Wither & H. Morrison.
3	*	82. Rhu Stoir, Do.	II.	195	Wm. Wither.
		OUTER HEBRIDES.			
5		83. Butt of Lewis	I.	170	T. Edgar. A. Thompson.
3		84. Stornoway, 2 lights.....	II. I.	56	J. Grierson.
3		85. Island of Ghlais	I.	130	
5	*	86. Monach Isles	I. II.	150 62	J. Youngclause.
2		87. Ushenish	VI.	176	
1	*	88. Barra Head	II.	683	Wm. Irvine.

Returns in 5 years.	1884.	MAINLAND, SKYE, AND INNER HEBRIDES.		Feet.	
0	* 89.	Rona, Skye	IV.	222	Frazer.
4	* 90.	Kyleakin, Ross	IV.	53	D.M'Culloch.
2	91.	Isle of Ornsay, Skye	I.	58	
2	92.	Ardnamurchan	I.		
5	93.	Hynish Signal Tower, Tyree			
	* 94.	Skerryvore, off Tyree	II.	150	T. Dawson.
5	* 95.	Dhuheartach, S. of Ross of Mull	I.	146	W. Davidson.
5	96.	Sound of Mull	V.	55	W. McLellan.
0	97.	Corran Ferry, Loch Eil	IV.	38	
4	98.	Lismore I., Oban	I.	103	
2	99.	Fladda, Easdale	VI.	42	
3	*100.	Rhuvaal, Islay	IV.	147	G. Boreham.
4	*101.	M'Arthur's Head	IV.	128	Wm. Maill.
5	*102.	Skervuile, Jura	II.	73	John Ewing.
5	103.	Rhinns of Islay	IV.	159	P. Anderson.
2	104.	Lochindaul	IV.	50	
0	105.	Mull of Kintyre	VI.	297	
0	106.	Devaar, off Kintyre	II.	120	
0	107.	Pladda, Arran	II.	130	
2	*108.	Lamlash	IV.	46	D. M. Scott.
2	109.	Turnberry, Ayrshire	IV.	96	Andr. Nisbet.
4	*110.	Corsewall, Wigtonshire	IV.	112	R. Laidlaw.
5	111.	Loch Ryan, do.	I.	46	
5	112.	Portpatrick, do.	I.	37	
4	*113.	Mull of Galloway, do.	II.	325	Alx. Murray.
1	*114.	Little Ross, Kircudbright	IV.	175	Jas. Ferrier.

ISLE OF MAN.

3	115.	Point of Ayre, I. of Man	III.	106	
2	116.	Douglas Head, do.	I.	104	
	*117.	Chickens Rock, do.	II.	122	
2	118.	Bahama Bank (L.V.), do.	?	?	
	*119.	Langness, do.	?	?	Robt. Clyne.

Notes from the Stations.*

Mr. Morrison, at Cape Wrath, says birds are scarce at this station; the coast being so wild they keep more inland. Gannets frequent the coast all the year from February to November. The Peregrine Falcon is on the coast almost all the year.

From Stoir Head Mr. Wither sends a few notes on land birds. Arrival of Swallow noted May 11th, rather an early date for the West Coast of Sutherland. Gannets were passing north continuously in August.

Mr. Youngclause, after a long residence on the Monach Isles, has removed to an E. Coast station, but sends a last schedule from the former, dating March 30th to April 7th. Wrens seem scarce here, and the Goldcrest he saw this year, but never on any previous occasion. A robin had not been seen before for ten years until April 7th, 1884. Snow Buntings on April 4th are noted as unusual.

Mr. Youngclause adds "There has been a great scarcity of birds at this station for a number of years back, and unless the winds happen to be off the mainland, with hazy weather at the time of migration, we scarcely see a bird. Even Eider Ducks have deserted this place of late years, ever since we had the fearful storm of Nov. 15th, 1877, but I am told they have been very abundant about the Sound of Barra, and the sheltered places on the east side of the island."

Mr. William Irvine sends two interesting schedules from Barra Head. In September a continuous flight of birds flying east is noticed on 6th, light S.E. wind.

From Rona Lighthouse the Goldcrest, a single bird, is recorded in October as unusual, and is accurately described; evidently of rare occurrence here.

I have to thank Mr. McCulloch, Kyleakin, for the careful attention he has given to the subject of direction of flight in every instance of a record, and, I may add, I am pleased to find much more attention paid throughout the 1884 records to this important item of our inquiries.

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* Only the notable events, or anything of particular interest, are here taken notice of. Such may be useful for faunal purposes.

Skerryvore.—Mr. Thomas Dawson sends full schedules from February to December, but remarks, "Not one bird seen here between Dec. 1st and Jan. 15th, date of latest schedule." The only evidence of rushes was that of *Turdidæ*, in November, correlating with E. coast rushes, but there are many light entries. The same gale which detained a Blackbird on the rock also detained Mr. Crow, the under lightkeeper, twelve days after time at Hynish Signal Tower. He and the Blackbird changed residence on the same date.

Dhuheartach.—Numerous light entries also from this station, dating Dec. 2nd, by Mr. William Davidson.

Sound of Mull.—Mr. William McLellan pays careful attention to the directions of flight, and set of the tides and movements of birds in connection therewith.

Rhuvaal.—Mr. George Boreham also notes these important particulars, and takes note of the rainfall in August—3rd to 25th—a new feature in our reports. He adds, "It is only very rarely a bird strikes our lantern, as they keep well off shore when passing on the wing."

M'Arthur's Head.—Evidences of a rush of migrants, of many species, are given in Oct. 7th, 8th, 9th, by Mr. W. Mail. Wind prevailing S.W., but an E. gale on 9th, when "great numbers" are recorded.

Skervuile.—Mr. John Ewing sends well-filled schedules dating Jan. 13th to Nov. 19th, giving many directions of flight. A curious and interesting note is added. "On Oct. 5th" a "Sandpiper" occurs. "This bird came to the rock five years ago, when I succeeded in taming it, but I have not seen it since that time till now."

Rhinns of Islay.—Mr. Peter Anderson makes a very good proposal indeed, and that is that our Committee ask the co-operation of assistants as well as principals, as "by so doing you will have a far better chance to get more notes; because, as at present assistants care very little about recording their operations, as they get no credit for doing so, whilst they have one-half of the night on duty." Mr. Anderson anxiously desires a "small book of plates of birds," and complains of the confusion connected with local names in different parts. I have urged, and still urge, on our Committee the advantage there would be in a printed list of local names. For Scotland, the MS. is ready in my hands

to be made useful as it stands, and there is abundant room for enlargement; but it would cost somewhat to print and distribute it. I have three excellent schedules from Mr. Anderson. I think his proposals are worthy of the attention both of our Committee and of the British Association. Mr. Ross has also materially assisted Mr. Anderson in filling these up. We would be glad to receive from all stations the names of *all the assistant keepers*, which can be inserted in next return of schedules. A very pronounced rush is recorded at this station. It is quite a principal station on our W. coast.

Lamlash, Arran.—Mr. David M. Scott does not consider it necessary to mention all occurrences of Herons at this station, "as they breed on the high rocks on the Island, and, of course, are always in the locality."

Turnberry.—From February to December almost all records are accompanied by winds from S.S.E., S. or E. We have records on twenty-one dates in that time, and only on one day (Nov. 19th) is the wind out of another quarter, viz. N.N.W.; on this date a solitary Redshank was killed at the lantern.

Corsewall.—Rushes evident both in spring and autumn. Winds on dates of heaviest records S. to E. and N.E., but also heavy returns on Sept. 22nd, with fresh S.W. and haze. Dates of rushes very marked. A short but largely bulking schedule.

Mull of Galloway.—The migration is, on the whole, more distinctly shown in October on the West Coast south of the Clyde than on the East Coast at Isle of May during October. The direction of flight usually given is, where noticed, S.E. While on the East Coast, at Isle of May, winds were north of either E. or W. between Sept. 26th and Oct. 17th, on the West Coast south of Clyde they were S. and W. light. The coast lines in the W. thus showed their influence on the migration; and the normal winds, being west on the West Coast, developed a larger and steadier visible migration than on the East Coast. The only Woodcock recorded at this station in October—Oct. 19th—came during strong N. breeze. A considerable number of Swallows occurred between June 29th and July 4th, when there was a rush. I have no returns from the Mull of Galloway after Oct. 23rd.

Little Ross.—Considerable evidence of rushes in latter end of

October and in November. Mr. James Ferrier says, "Since the above dates—*viz.*, dates of last schedule, 18th Nov. to 24th Dec.—there have been no birds." . . . . . "No day migration observed here."

Langness, Isle of Man.—Mr. Robt. Clyne, formerly under-keeper at Isle of May, writes that he considers the great flights of Linnets—grey and green—are all local, and also Starlings, and he thinks they need hardly be mentioned in the schedules, in the meantime. A very large congregation of Green Linnets took place at Langness on Nov. 19th, which must be noticed in connection with our records elsewhere, on both E. and W. coasts (J. A. H. B.),—probably about 500 to 600, Mr. Clyne says. The Committee marvels very much what can have become of their late coadjutor Mr. Philip M. Kermode. He has not, to Mr. Clyne's knowledge, as yet paid him a visit. Mr. Clyne mentions the abundance of Red-legged Crows. He had entered them as "Jackdaws," but subsequently has become aware of the error. They are numerous about Castletown. Very little fog has been experienced, and the fog-signal has only been once used in the past two months (*in lit.* Nov. 24th). The Committee are much obliged to Mr. Clyne for his interesting and well-filled schedules. He gave some interesting notes also on the species breeding around the station.

Chickens Rock, Isle of Man.—A very heavy rush is recorded between 15th Oct. and 21st to 26th, "the flocks being so dense that no approximate number could be given; they formed by far the most numerous flocks of migrants seen this season" (James Black, principal keeper). We were singularly unfortunate at the Isle of May, the winds there being N. of E. or W.; while here, in the Isle of Man, they were, during the heaviest filled dates, 15th and 21st Nov., strong W. and haze, the migrants crossing the wind, and showing largely at these more southerly stations of our West Coast.

To Mr. M'Iver, Teacher at Culken, in Assynt, Sutherland, I am obliged for some land notes of interest, which will appear under the various species in connection with Stoir Head Lighthouse.

Report under Species.

Turdidæ.—While in 1883, Spring migration almost escaped notice on the West Coast, in 1884 a rush was very evident between the 18th and 20th Feb., at stations south of Clyde, such as at Corsewall, and indications of same movement north of Clyde, at Skerryvore; but most records south of Clyde. Doubtless Isle of Man could also testify to this, but we have no schedules thence till date of July 20th, when Mr. Clyne went there. There are also a few movements in March at Skerryvore and Skervuile. In both months winds light S.S.E. or S.E. In autumn, much greater than on the East coast. Every station from Cape Rhu Stoir, south, gave movements, as follows:—Rhu Stoir (slight), Barra Head (six seen, 19th Nov.), Rona (light, and only in July), Kyleakin (light indication, 15th Nov.), Skerryvore (a number, 12th, 15th and 16th Nov.), Dhuheartach (light, 15th, 16th to 24th Oct., a few as early as 4th July and 1st Aug., probably local), Sound of Mull (few only, on 19th Sept. and 19th Dec.), Skervuile (light, in November), Rhinns of Islay (enormous rush of Redwings, Thrushes, Fieldfares, Blackbirds, with Woodcocks, Larks, Crows, 14th to 19th Nov.), and southwards, at Lamlash, Arran (good indication on 10th), at Corsewall (a rush on 10th), at Mull of Galloway (rushes, between 10th and 13th and 23rd), and at Little Ross (mostly of Blackbirds). Winds, north of Clyde, in October northerly and westerly, and in November southerly and easterly; for the most part returns lighter in October than in November, and great rushes in November at stations south of Clyde, where winds, during latter half of October and November, were S. and easterly. Great rushes all this time, correlating with East Coast of England, but not so much observed on East Coast of Scotland, owing to winds then being N., and never S., of E. or W. The species mentioned are for the most part Thrushes and Blackbirds, Fieldfares and Redwings, but there is reason to believe that the latter really bulk largely in the migration, as where the bird is distinguished from the Thrush or Mavis they appear to have come in numbers, as at Isle of Man (R. Clyne) and Rhinns of Islay (Peter Anderson and Wm. Ross). The migration extended over a considerable time;

yet the rushes were remarkable for intensity and uniformity in time at the various stations. The earliest record given is at Dhuheartach (July 4th), but may have been a local movement, along with two other summer records. Next in August (1st, 10th and 28th, a few). Actual first migration in mass commencing Sept. 19th, 21st, and 25th at Sound of Mull, M'Arthur's Head, and Corsewall, respectively. The latest records reaching me date Dec. 19th, at Sound of Mull,—a solitary Blackbird; and by the 19th Nov. the body of the rush was past, the latest record being on that date at Rhinns of Islay. The rush was strictly defined, and there are not many full records before the last week in October. The earliest species recorded (excluding July) is Thrush, and the next Fieldfares, at Skervuile. The latest species recorded are Blackbirds, at Sound of Mull. Those species which bulk largest are Blackbirds and Thrushes; and those least, Fieldfares. Redwings are probably more numerous than actually recorded, as all our reporters do not perhaps distinguish them.

SAXICOLINÆ.—*Note.*—For all purposes of this Report, "Stonechats" and Wheatears are identical. Where true Stonechats are recognised and mentioned, the records relating to these are kept distinct. In Spring: earliest Wheatears at Sound of Mull (29th March); latest, single bird at Skerryvore, 14th May, and one on 11th; appearance of rush at Skerryvore on 22nd, twelve birds at the lantern, fresh S., haze; and at Skervuile indications on 22nd to 24th, light E. and S.E. In Autumn: earliest at Isle of Man stations, 2nd, 9th, and 10th Aug.; almost a rush on 10th at Chickens Rock; and several, 9th and 10th, at Langness. [*Note.*—Chickens Rock reporter calls them "Stonechats," but Langness reporter correctly terms them "Wheatears."] Then at Rhu Stoir, in the north, comes the next earliest date, 16th Aug. Thereafter stations returning them are Rhu Stoir, Skerryvore, Dhuheartach, Skervuile, Chickens Rock, and Langness. Rush appears most decided at the early dates at Isle of Man; and again between 20th and 24th Aug. at Dhuheartach, N. of Clyde, and at Skervuile; whilst a third considerable movement is noticeable on 15th and 26th Sept., at Isle of Man. The latter is also the latest date on record. Besides Wheatears we have the following records of true Stonechats (Stonechat, *Pratincola rubicola*). Earliest at Dhuheartach, August; and at Skervuile

between 20th and 26th, accompanying rush of the last species. Of Redstarts only one record; and two or three at Langness on 8th Sept. Winds in August at most localities, S., S.E. and S.W., light or fresh.

SILVIINÆ.—In spring only one record, *viz.*, Robin; one, at Monach Isles, on 7th April, S.E., clear; and a rush at Corsewall on 29th March. In autumn: earliest at Kyleakin, 24th Aug., light S. (Two previous records on 19th and 28th July at Rona, Skye, are in the debatable ground between local and general migration.) In September two single records only, at Sound of Mull and M'Arthur's Head, both on 19th, at which latter station it is reported as "arriving in winter." One Blackcap, female, sent me for identification from Skerryvore, on 16th Nov., moderate N.E., haze, completes our records of this group.

PHYLLOSCOPINÆ, Gold-crested Wren.—Evident rush noticeable in spring, when great numbers, along with the Robins, were seen at Corsewall on 29th March. One bird occurred at Monach Isles, "new to Mr. Youngclause," but accurately described, therefore hitherto rare at that station; and one is recorded from Rona Skye, but no date given. In autumn a considerable migration, beginning with the earliest at Sound of Mull, on 28th Aug., strong S., with showers. Ending with latest at Lamlash, on 16th Nov., a single bird. (Note here the exactness of how even single records on West coast agree with movements on the East coast.) Scattered records occur at Lamlash, Firth of Clyde, and at Corsewall, between 10th and 19th Sept.; almost a rush on latter dates. Rush on 24th at Little Ross, and indications of ditto at Langness, on 17th and 18th; desultory records at Little Ross before these dates, 11th to 22nd. In October evidence of rushes on night of the total eclipse of the moon, *viz.*, 4th Oct., between the same hours, 9 and 12 midnight, the hours of total eclipse of greatest darkness, just as was observed by Mr. Geo. E. Paterson and myself at Isle of May, on the East coast; another indication of a rush, between Oct. 19th and 23rd, at Mull of Galloway. Only single records at Dhuheartach, Skervuile, and Lamlash in November; but, as before remarked, these single records marvellously coincide with East Coast records, and are therefore important. Wind at stations returning, mostly light and various, W., E., and S. Night of

eclipse, light W., cloudy and dark. Of Willow Warblers, a few on 10th and 11th Sept., at Little Ross.

ACROCEPHALINÆ.—No records either spring or autumn. The negative evidence is worth positive record.

PARIDÆ.—Two records only. At Mull, of Galloway, on Sept. 10th, two Titmice, in strong S. wind at lantern, and at Sound of Mull, two struck, but not killed, on Oct. 30th, light S.W. How far these are only local movements or not, it is difficult to know with the small data yet to hand.

TROGLODYTIDÆ.—On March 30th, one Common Wren returned in schedule from Monach Isles. Fresh south haze. It would be interesting to know the original starting place of this solitary Wren. The newly-discovered insular variety of St. Kilda is, however, probably entirely resident there all winter. Nevertheless we would like specimens of Wrens from Monach Isles at all seasons for examination. In September, one occurred at Lismore, sitting on rock, on 22nd, light N.E. wind and haze. In October a single bird at Rhu Stoir, at noon, strong S. and rain, and three occurred at Lamlash on Nov. 4th, flying south against a strong S.W. wind and showers.

MOTACILLADÆ.—Only spring record of Wagtails on May 11th two males and two females at Rhu Stoir. In autumn, earliest Aug. 27th, at Skerryvore, when one remained three days on the rock, indicating thus the correlating rush on 31st at Langness, where about a hundred in a large flock of young Pied Wagtails were seen all day. These are called "Grey Wagtails or young Pied Wagtails" by Mr. Clyne. The true Grey Wagtail is a yellow bird with a black throat and very long tail. [Surely British ornithologists can find a more descriptive and truer name than Grey Wagtail for *Motacilla boarula*. If confusion occurs amongst ordinary observers as to names, it is as often the fault of the naturalists who misapplied the names in the first instance as not.] In September a further rush of the same young Pied Wagtails observable on the 10th at Langness—a flock seen—and a dozen at Rhinns of Islay on 7th; and a few at Barra Head and one at Dhuheartach on Sept. 1st. In October a few at Langness, on the 6th, the latest given.

MOTACILLADÆ, Pipits.—Earliest Meadow Pipit in spring, single records on 8th and 21st, at Skerryvore, light S.E. haze and fresh N.W. clear respectively. One rested on lantern of

Lamlash Light on May 2nd. In autumn, the rush of Meadow Pipits took place at Isle of Man—Langness during Sept. 4th (a lot), 9th (very many), 24th (large flock), 29th (large flock). Earliest, August 31st (large flock). Later, a few in October at Skerryvore, on 6th and 16th, fresh S.W. breeze, and at same station on 1st and 12th Nov., fresh S.W., rain.

Muscicapadæ, Flycatchers.—Only one record at Longness (R. Clyne), the first record in six years' observation, on Sept. 11th. Mr. Clyne has met with the Pied Flycatcher on Isle of May, as well as the Spotted, but these two seen on Isle of Man are only designated "Flycatchers." As the Pied Flycatcher breeds in Cumberland and N. of England, it would be interesting to know which species (or if both) visits Isle of Man.

Hirundinidæ, Swallows.—Dates of arrivals are as follows:—March 30th, at Corsewall. It is worthy of note that I observed a Swallow at Glendoune Girvan hawking for insects as late in autumn of 1884 as Nov. 8th (see East Coast Report). May 11th, three seen at Rhu Stoir (an early arrival for Sutherland W. coast, J. A. H. B.), light south, one seen at Skerryvore, light S.E.; 17th, one at Skerryvore, fresh, S.W.; 14th, three at Lamlash; 19th, several all day at Rhinns of Islay, light S.E., haze; 21st, one seen at Rhu Stoir, light S.; 22nd, two Sand Martins at Barra Head; June 3rd and 4th, two Sand Martins at Barra Head, light N., cloudy; 19th, two Swallows at Kyleakin, flying S., light S. and clear; 22nd, one Swallow at Rhu Stoir, light fog and rain; 29th, great numbers (rush) flying around at Mull of Galloway, and ditto flying E. at same place on 30th; and on 30th one seen at Cape Wrath; in July, eight Swallows on 3rd and "scores" on 4th (probably local at Mull of Galloway, preparing for departure); one at Langness on 25th; in August, flock at Langness of Swallows on 20th, and another on 25th; in September, several on 5th, at Langness, and on 8th and 10th, and single records at same place, and at Rhinns of Islay on 29th and 30th; in October, a large flock of Swallows and a party of twelve at Langness, and a flock at Chickens Rock on 6th; a flock of twelve on 19th at Langness, the latest record.

Fringillidæ.—Very few returns in spring. A few Grey Linnets on May 12th at Skervuile, and a few at Rona, Skye, on 26th, being all. In autumn, a rush, and earliest record save

one, at Rhuvaal, of young Grey Linnets flying W. on Aug. 20th, and a few same day at Skervuile. The earliest date is a flock at Isle of Man (Langness) on July 29th. Latest record on Nov. 19th of Green Linnets, a rush of 700 or 800, and rushes between 4th and 19th, all at Langness. Rushes during latter end of October at Langness, and sufficient indications at several stations N. of Clyde, as Kyleakin, Skervuile, and Rhinns of Islay. This species bulks largest in all the schedules. Other species noticed are Sparrows (large flock at Langness, Oct. 13th); "Mountain Sparrow" (true Tree Sparrow), one at Rhinns of Islay; "Small Linnets" (Twites or Redpoles?) at Rhinns of Islay, Oct. 21st; Chaffinch, a few stray entries at Dhuheartach, one found dead on rock on Nov. 2nd, others seen on 17th and 19th (male), and a flock at Langness on Oct. 3rd.

Emberizidæ, Buntings.—Snow Buntings in spring, 203 on 14th to 17th March at Barra Head; a large flock at Rhu Stoir on 16th, and one female, same place, on 24th; flock at Monach Isles April 4th; one female at Rhu Stoir as late as June 2nd, fresh various rain. In autumn, records light everywhere. One in October only at Barra Head; ten on Nov. 2nd at Cape Wrath; ten on 7th at Barra Head; odd birds at Skerryvore and Dhuheartach on 16th, and an apparent rush or local flight of fifty on Island at Rhinns of Islay on 14th, and a number (with Thrushes) on 16th at same place.

Alaudidæ, Larks.—Autumn migration of 1883-4 continued with some force into January, 1884, especially noted at Kyleakin, or these may have been local flights. In spring, Larks occur sparingly at same time as Thrushes and Starlings. Feb. 1st, at Lamlash, and Feb. 19th at Skerryvore; also nine (three killed) at latter station March 10th; no more till June 15th; "Larks" at Skervuile, and four on 29th at Dhuheartach. In July, four at Dhuheartach. In autumn, earliest record at Dhuheartach on Aug. 1st, the only record that month; then only a single bird all September, on 21st, at Langness. Latest record, October 24th, a few at Rhinns of Islay. The rush was very great, and took place between the 14th and 21st October, or perhaps more compressed still between the 14th and 19th Oct. The whole duration of time in which Larks migrated is thus very limited this season, *viz.*, between Oct. 14th and Oct. 24th, the latest date given. During the rush, which was

observable principally at Rhinns of Islay, north of Clyde, the wind was northerly or north-westerly, the same as on the East Coast at the same dates, which accounts for the body of the rush penetrating more to the north and reaching further than in other winds. At Rhinns of Islay hundreds, and on 19th thousands were seen, wind fresh W. to N.W. All flying west. On the East Coast the winds favourable to their continued flight prevented my observing them in any great numbers at Isle of May, but there can scarcely be any doubt these great flights passed up the Firth of Forth, as we had plentiful opportunities of seeing almost continuous indications of their presence at the above dates on the Isle of May. The stations returning Larks are Skerryvore, Dhuheartach, and Rhinns of Islay, and Langness (only a small record on Oct. 2nd). Query, will our Irish Coast returns show the continuance of this flight of Larks?

Sturninæ, Starlings.—Spring, rare indications at Rhu Stoir, March 25th (probably local), one female, and at Lamlash, one on April 1st, and March 2nd one killed, and at Corsewall on Feb. 19th, struck along with Thrushes and Larks. The latter record may have been an indication of real migration, the others are most likely local only. In autumn, earliest Aug. 12th, at Isle of Man, a flock; on 23rd, a number at Rhinns of Islay, culminating in hundreds and hundreds on August 30th at Langness (Isle of Man), and again in hundreds and hundreds at Langness Sept. 18th, and indication by a flock at Mull of Galloway. Again, in October, rushes evident it may be said between 18th and 23rd, and on 29th, observable at Kyleakin (on 18th), at Mull of Galloway on 22nd and 23rd, "flocks," and on 29th by 200 or 300 at Rhinns of Islay. Another rush along with Thrushes, &c., dating Nov. 14th, at Rhinns of Islay. Indications of movements also at Kyleakin and Dhuheartach on Nov. 1st and 2nd. Latest, a solitary record on Dec. 24th at Lamlash. Migration of this species we may designate in 1884 as short, sharp and decisive.

Corvidæ, Crows.—Spring: movement of Carrion Crows, Ravens and Rooks few, and only in February and March. In February, "Black Crows" at Barra Head, one on 23rd, and fifteen on 14th and 15th, fresh S.E. and strong E.; also Carrion Crows at Skerryvore (three, "very seldom seen") flying around, fresh S. clear. Ravens, two at Cape Wrath (probably

breeding in the neighbourhood, at Craig Riabhach), light S.W. haze; and one at Skerryvore flying N.E. Rooks at Rhu Stoir, probably belonging to one of two rookeries in N. and W. of Sutherland, *viz.*, at Cama Loch in W. Cromarty, or at Tongue. In autumn, from 1st to 25th Aug., a very large flock, mostly young, feeding daily around Rhu Stoir (probably a local visitation from Cama Loch or Tongue), but Tongue Rooks are known to feed regularly in winter at Far-out Head in the neighbourhood of Durness, and in severe winters are seen going there and returning in evening. The Rhu Stoir birds are therefore more likely to belong to the Cama Loch rookery. At Chickens Rock, Isle of Man, a number of Rooks flying W. towards Ireland on 11th August. No records in September. In October, Hooded and Carrion Crows flying W.S.W. for Ireland at Rhinns of Islay, and a few seen for days at Langness, feeding, about the same time. Records continue to increase in November, a rush of hundreds and thousands at Rhinns of Islay by 13th, continuing in force up to 17th and 18th, flying east on 13th, but resting or flying S.W. on 17th and 18th, along with enormous rush of Curlews, Woodcocks, Snipe, Sandpipers, Larks, Redwings, Thrushes, Starlings, Blackbirds, and a few Jacksnipes. Latest record on 19th. Also Ravens same dates, a few, and Jackdaws on 16th and 1st Dec. at Skerryvore and Dhuheartach.

Cypselidæ, Swifts.—On July 20th, about twenty flying S., strong E., rain and haze, at Skervuile, and at same station a few along with Swallows, light E. and clear.

Cuculidæ, Cuckoo.—In spring, arrivals as follows:—At Rona Skye, May 11th, first heard, light S.W. Kyleakin, May 10th, first heard, moderate S.S.W., haze. Sound of Mull, May 8th, first heard, moderate S.W., clear. Skervuile, May 10th, first seen, light E. Rhinns of Islay, May 19th, first seen, fresh E., clear. Lamlash, May 12th, first heard. Corsewall, May 11th, first heard. Autumn, Barra Head, June 28th, 1 first seen. Mull of Galloway, 1 first seen in July. Autumn records of Cuckoos scarce during six years' records.

Strigidæ.—Spring, April 28th, one Brown Owl for three days at Skerryvore; and 1 Owl in May (probably Short-eared Owl) at Dhuheartach. No autumn records.

Falconidæ.—At Skerryvore, one Sparrow Hawk on 29th.

At Cape Wrath, Game Falcon and a "Small Hawk" (Merlin?) on the coast all the year round. In autumn, fewer records than usual on predatory visits. One Falcon on Aug. 28th at Rhuvaal. Sparrow Hawk on 1st, and again on 19th, at Skerryvore; one on Oct. 15th and 16th at Dhuheartach; and one Sparrow Hawk resting on sun-dial on 9th. One Eagle seen at Erraid ("rarely seen here") in November.

Pelicanidæ, Gannet.—Records in order of dates:—At Skervuile, March 10th, one flying S., fresh S.E; 14th, one flying N., S. gale. Rhu Stoir, April 25th, five fishing, light S.E., clear. Skervuille, April 16th, one flying N. (local?). Rona, May 25th, twelve, W. clear; 29th, one, strong N., clear. Kyleakin, June 20th, in flock flying E., E. clear. Lismore, 22nd, flying S., various, light, clear. Dhuheartach, July 4th, one; 20th, flying S. Skervuile, 6th and 7th, Solans flying S.; 23rd and 24th, Solans flying S. Little Ross, July 9th, three flying W. from the Solway. At Rhu Stoir, Aug. 28th, rush, and passed daily in flocks flying N. up to the middle of August (see directions of flight at Pentland Skerries, E. Coast). During the rest of August, 24th to 30th, records are given from Rhuvaal, Skervuile, and Lamlash and Little Ross, but directions of flight are omitted under the dates given (see records off Cape St. Vincent). In September, a flock flying W. at Langness on 21st, a single bird flying N. at Barra Head, and two flying S.E. on 6th; and a late record at Lamlash on Nov. 6th (marked "late").

Anatidæ, Ducks, Geese, Swans.—Spring records of "Wild Geese" are six flying S.E., wind E. and snow, at Kyleakin (local), and two on March 23rd flying S.W. In April, 17th and 21st, two or three flying W. and flying S. Autumn ditto of Wild Geese, numerous. Earliest, Aug. 21st, flying S., at Kyleakin. Latest, Dec. 9th, six flying S. at Lamlash. Other records in Oct., but no rush evident. Of Eider Ducks there are many records. Earliest at Rhinns of Islay, seventeen males and females on Aug. 6th. Latest December 14th, seven males and seven females flying S. on 3rd, and six on 22nd at Rhinns of Islay. Greatest numbers seen at Rhinns of Islay Oct. 29th, when at least 200 were seen at 7 a.m., and 100 at 9 a.m. In November the "first seen this fall" at Skerryvore on 1st, and large flock on 6th flying S., and others at Dhuheartach.

Other species are Shieldrakes (breeding at Rona), arrived in May; Barnacle Geese, thirteen at Barra Head on Oct. 13th, resting. Wigeon, one female, at Rhinns of Islay, on Aug. 23rd. Of Swans, two flying N., seen at Sound of Mull on June 2nd, with light N.W. airs. Barnacle Geese identified by head sent me.

Columbidæ.—Two Rock Doves flying S. (local) at Kyleakin, and six Wood Pigeons at same place on 22nd, flying S.S.W., moderate S. wind. In August, five doves flying E. at Rhuvaal; and in December, at Rhinns of Islay, 300 flying south, about one mile inland, light W., haze.

Rallinæ, Corn Crakes, Water Rails, &c.—Only spring record: a Corn Crake at Barra Head on 6th June. Only autumn records: one killed at lantern of Mull of Galloway, and one Water Rail killed at Rhinns of Islay (sent to me in the skin, J. A. H. B.) on 23rd October.

Charadriadæ.—Large flocks of Golden Plover arrive on the coast around Rhu Stoir during winter, when snow lies inland, and are seen onwards after March 12th and 15th, 1884, at same station. In autumn, records of Golden Plover unusually scarce; single ones at Sound of Mull, Sept. 19th, and Rhinns of Islay, Sept. 18th. Large flocks begin to arrive at Rhu Stoir ("to come towards the shore") early in November, remain all winter. At Rhinns of Islay, two "Gray Plovers," marked "rare," seen on Oct. 6th. Usual records of Oystercatchers, not so abundant or general as usual.

Lapwings.—One seen Feb. 15th at Barra Head; twenty on March 15th at Rhu Stoir, and one or two single ones there on 7th and 11th; and two on April 2nd. No great movement recorded in autumn. Rhinns of Islay, 10 flying about on 24th August and seven resting at Barra Head on 7th October.

Scolopacidæ, Woodcock, Snipe, Curlew, Whimbrel.—Woodcock: Earliest in autumn, Oct. 9th, one shot at Mull of Galloway. Latest, Nov. 18th, one at Dhuheartach, resting. Indication of more general movement between 15th, 16th, to 23rd Oct., but very slight, at Barra Head, one on 19th at Skervuile, Rhinns of Islay, and at Dhuheartach. Snipe: Only some three records; in September one at Skerryvore, in October one at Dhuheartach, and in August two at Rhinns of Islay, killed. Curlews: Numerous records from July on to November at many stations. Whimbrel: One noticed at Langness in

August. A few records of Sandpipers (see notes under stations at Skervuile.)

STERNINÆ, Terns.—Arrivals in spring: At Rona, a rush of 200 arrived on May 11th, light S.W. and clear. At Skervuile, one first seen on May 23rd, calm; a number arrived between 24th and 31st, light, various. At Kyleakin, Terns first seen 26th June, strong S. At M'Arthur's Head, Terns first seen 18th June. At Rhinns of Islay, Terns first seen 23rd and 24th July, light S.W. Query, return Journey? In autumn: Terns seen 11th and 12th at Skervuile; and more on 18th; and at Chickens Rock large quantities flying north on August 8th. Last seen at Kyleakin on September 6th.

LARIDÆ.—Considerable movements of Gulls of sorts from July 5th on to winter. Black-headed Gulls are marked as "very few this year" at Skervuile. Continuous flocks flew E. past Barra Head on Sept. 6th. Continuous flocks flew N.W. past Sound of Mull in August. Skervuile returns "numbers" about the middle of August. At one station, *viz.*, Skervuile, the following are their recorded movements: in variable but prevailing N. to N.W. winds till Nov. 17th; thereafter light N.E. In August: 19th, one Boatswain Gull; 26th, flock of Herring Gulls; 31st, flock of Gulls. September, two records of flock of Terns, and Kittiwakes. Oct. 16th and 17th, ditto, ditto. November, on three dates Boatswain Birds and Kittiwakes. At Stoir Head vast flocks of Common Gulls and Herring Gulls passed N. Herrings "set into" Lochs Coul and Dhu, a little to the north of this, about this time, December, 1884, which locally accounts for this rush. Most of the Common Gulls were young. At Rhinns of Islay two "one-year-old Iceland Gulls" with hundreds of other Gulls flying about. We are particular in recording Gull returns, as this was an extraordinary Gull year on the East Coast.

PROCELLARIIDÆ.—On July 26th one Storm Petrel on lantern at Barra Head, the earliest record of any for six years, light E. with fog. One ditto at Stoir Head (rare) in August, and one on Sept. 3rd at Lismore (also rare), killed, light N.W., haze.

ALCIDÆ, Razorbills, Guillemots, Puffins.—On Feb. 23rd, increased from 20th to date at Barra Head. "Marrots" and Razorbills, all March 6th to 8th, 14th to 17th, 23rd to 24th and 29th, winds light S.E. and S.W. In April: 4th to 11th,

rush at Barra Head, various, N.E., clear, and Puffins; a few on 9th; 17th to 22nd, a few only of Marrots and Razorbills seen. On May 6th and 7th, Puffins, Razorbills and Marrots (Marrot or Guillemot) arrived in great numbers; and at Kyleakin two Tysties (*i. e.* Black Guillemots) seen flying S.E. In autumn, all left Barra Head except a few by Aug. 20th, but reappeared for a day on 30th, on which day all the Puffins left, light S.W. In October, continuous flocks of Puffins flying S. before a north gale at Rhinns of Islay, on October 12th.

General Remarks.

During the past six years' Migration Reports we have to thank many of our correspondents for the regularity with which they have acceded to our requests. Specially must we thank the following for the unbroken series of schedules during the past six years, viz.: Sumburgh Head, six years, Messrs. William Anderson (1879 and 1880), John Wilson (1880, 1881, 1882), D.M. Scott (1883 and 1884). Pentland Skerries, six years, D. MacDonald (1879, 1880, 1881, 1882, 1884), and Mr. J. Gilmour (1884). Dunnet Head, Caithness, five years, George McLachlan, (1879, 1880 blank), David Laidlaw (1881, 1882, 1883, 1884). Bell Rock, James Jack (1879, 1880, 1881, 1882, 1883, 1884). Isle of May, Joseph Agnew, six years (1879, 1880, 1881, 1882, 1883, 1884).

These stations are situated as follows:—

Sumburgh Head... 300 feet high...white fixed light.
Pentland Skerries, 170 feet high...white fixed light.
Dunnet Head ..... 346 feet high...white fixed light.
Bell Rock..... 93 feet high...white and red revolving.
Isle of May ..... 240 feet high...white fixed light.

Were Bell Rock also a *fixed white light*, no doubt returns would be equally extensive, or greater, possibly, than Isle of May. The white fixed lights have superiority; and when this is combined with low height over the sea and insular position, the best conditions appear, and are only to be beaten by floating light-ships. The flash lights have little chance to compete.

Next let us also thank the following correspondents:—At Whalsea Skerries, 3 years, Neven Kerr (1880, 1881, 1882). N. Ronaldshay, four years, John Tulloch (1879, 1880, 1881, 1882). Cromarty, R. S. Ritson, four years (1880, 1881, 1882, 1883).

This class of stations are situated as follows:—
Whalsea Skerries...143 feet...white, revolving every minute.
N. Ronaldshay.....180 feet...white, revolving every ten seconds.
Cromarty ..... 60 feet...red, fixed (in the town).

Revolving lights, whatever the height, yield fewer returns than *fixed*, but are better than flash or red sectors.

We also thank those who, situated at still less likely stations, have nevertheless taken an interest in our work.

Bressay sends one year's return (1882); 105 feet; red and white, revolving every minute.

Noss Head.—One year (1883), A. Greig; 175 feet; white and red revolving, every half minute.

Kinnaird Head.—One year (1884); a blank schedule, valuable on negative grounds; 120 feet; white and red sectors, fixed.

Girdleness.—Two years (1880 and 1884); 185 feet; white fixed. Thomas Gallie and J. McAlister. The situation is said to be unfavourable, apart from light or altitude.

Finally, taking the remaining lights which have returned no years schedules, we will analyse their positions, &c.

Start Point.—80 feet; red, fixed. Class V.

Hoy Sound.—(55 and 115). Low, white, fixed, facing N. High ditto; red and white sectors, fixed. V.

Cantick Head.—115 feet; white, revolving every minute.

Holborn Head.—75 feet; white and red flash, 10 seconds, facing N. V.

Tarbat Ness.—175 feet; white intermittent, 2½ minutes. It is not quite clear to me yet why this station should not yield returns (see map), unless it be considered partially land-locked from E. and S.E.

Buchan Ness.—130 feet; white flash, every 5 seconds; and close to fishing village.

Montroseness.—124 feet; white, fixed; but amongst houses. V.

We think the above analysis places almost beyond doubt that the best position for a light to attract birds is in a light ship (witness the E. English Coast returns); next, an island of low elevation; next, an island of considerable elevation, if facing east, not if facing north; and that the worst are those at high elevations, and especially if facing otherwise than E., on the East Coast, or on East Coast Islands, or those in midst of towns, or in land-locked situations; that the best description

of light is "white, fixed,"—in fact, the brightest. Thus in many instances we consider that it is owing to position and nature of lights to a very considerable extent that we receive more schedules from some stations than others, and none at all from the least likely, whereas on the English East Coast all lightships are almost equally good as regards position.

Yet we do not allow that this is entirely the cause of least and greatest migration at different points, because we now know well enough, from land data, that certain tracks are preferred to others, and that these tracks over land have very strong connection with the East Coast Scotch principal stations, as we think our Reports will show.

As regards the influences of winds, &c., sufficient has already been said on this head throughout the Reports, and every succeeding schedule goes to prove our previous ones.

Analyses of the West Coast schedules almost always show much lighter returns than those from the East Coast, even from the best West Coast stations. Our previous five years' experience in great measure explains why it is so, and it seems natural to expect lighter returns on the West than on the East in most winds or weather. But, having regard to the said experience and the facts of migration which may now be said to be ascertained and certain, there are also one or two additional causes for the light nature of West Coast returns as against East Coast ones; while on the latter, the lights which give the greatest illumination, if in other respects suitably exposed, give the heaviest returns; on the former, it seems that the positions of the various stations have more to do with these. Thus most of the East Coast stations face the east, whence come the birds naturally, and while on the west birds travel from N.W. towards S. or S.E., the extraordinary variety of situations, and the equally great—or nearly so—variety of lights of no great power and brilliancy, must undoubtedly influence the quantities of birds visible on migration. And we find that while such stations as Kyleakin (white and red, fixed), Isle Ornsay (white, fixed), Sound of Mull (red, green, and white sectors), Corran Ferry (red and white sectors, fixed), &c., give small returns, or none at all, this is resultant upon their positions even more than their brilliancy or absence of brilliancy. And we find that the best situated stations, such

as Monach Isle (though only upper white flash, and lower, red fixed) gives better, though uncertain, returns, and Skerryvore (white revolving) and Dhuheartach (white and red sector, fixed), and Rhinns of Islay (white flash every five seconds) seem to be the surest stations north of Clyde. Indeed it is, perhaps, almost certain that most of the land-locked stations of the West Coast should be marked with the symbol of lowest value, V. South of Clyde, undoubtedly, we get more into the great groove of migration which crosses Scotland from the Firth of Forth, and if not yet so heavy as, for instance, at the Bell Rock, Isle of May, in all the years till 1884, yet we have more decided indications of rushes and throbs keeping time with the East Coast movements. When to this we add a less indented coast line, open lights, and, on the whole, greater power and brilliancy, we expect to find all the conditions more favourable. That this is the case our schedules for 1884 show decidedly, and even swamp the East Coast returns for the first time in our experience. When we come to the Isle of Man, where the Irish Channel contracts considerably, we again find heavy rushes of birds, equalling or exceeding those at such stations as Skerryvore and Dhuheartach and Rhinns of Islay. Of these Langness sends the heaviest returns, but we have there now a trained reporter, Mr. Robert Clyne, who was previously under Mr. Agnew at the Isle of May. Mr. Clyne's eager application to the subject now stands us in good stead.

The reason in 1884 for the contrary of the usual rule, viz., that East Coast stations of Isle of May and Bell Rock usually giving heavier returns than the West Coast stations S. of Clyde, is not far to seek for. The heaviest rushes at Isle of Man, and all down the West Coast S. of Clyde, occurred between the 15th to 21st and 26th October (see under Chickens Rock especially), while at Isle of May, Firth of Forth, no great movements of birds were visible. The winds on East Coast of Scotland were N. and E., and rarely W., but at Isle of Man and West Coast southerly and westerly. The migration on East Coast was pressed down on to the East English Coast by northerly winds. But on the West Coast birds travelled with light and most favourable winds, concentrating their forces at the central and commanding stations of the Isle of Man. We regret we have no returns from the other Isle of Man stations. I hope the men are not

disheartened by the non-appearance for two years of the West Coast of England Report which was entrusted to Mr. Philip M. Kermode. We earnestly hope they will now continue to send in schedules, the Isle of Man stations being most important.

The rapid increase of the Stock Dove in South and Central Scotland is very remarkable. They appeared commonly in East Stirlingshire in 1884-85, and have been nesting for some years in the Vale of Menteith, one of the high roads of migration. Many crossed the North Sea this past season to the East English coasts. Migration undoubtedly has a great influence upon extension of range, and the process seems easy to trace out; and it is very interesting also to find a similar extension of the Stock Dove to the rabbit-burrows of the sandy coast of Moray of late years (*auct.* Rev. Dr. Gordon and Capt. Dunbar Brander).

It appears useful in this place to speak of the comparative numbers of Woodcocks in the past six years. At the conclusion of our General Remarks on the last Report (1883) we called attention to the unusually large movement of Woodcocks, and to the area which appeared to have been principally selected by them before their final departure for N. Europe. As mentioned already (Report 1883), we had very few indications of their passage over Isle of May or East Coast lighthouse stations; and all stations returning any mark them as "rare" (see Report, 1882) or "rare in spring." Pentland Skerries, Bell Rock and Isle of May in six years have only recorded amongst them an infinitesimal number of spring records, and almost always with the remark "rare."

In 1879, which was a good Woodcock year in Scotland, we have not a single lighthouse record from either W. or E. Coasts. Yet I saw nineteen killed one day near here. In 1880, no records. In 1881, no spring records and scarce in autumn. Records at Butt of Lewis, Skerryvore and Lismore. Earliest, Oct. 28th. In 1882, a few spring records, one at Isle of May, April 9th ("not remembered before at this season," J. A.) Considerable and steady records, however, in autumn at five stations, north of Pentland Skerries inclusive, and at Isle of May. Rush Oct. 20th (twenty shot at Isle of May). In 1883, one record in spring at Bell Rock, April 7th, and rare in autumn; none till October, when a few at Monach Isle, Dhuheartach, Lismore, Loch Ryan, and in November at Kyleakin and Lismore,

all between 29th and 31st Oct., indicating a rush. In 1884, which was a good Woodcock season on shore, with immense spring returns visible between Firths of Forth and Clyde, yet only two spring records at Pentland Skerries and Isle of May, April 3rd and March 30th respectively. In autumn, near this, one day I saw eighteen Woodcocks killed. The similarity of circumstances of 1879 and 1880 are worth attention. A considerable number of Woodcocks were killed in October and November, 1884, at Isle of May, and indications of arrivals very general. The spring records must have been weakly birds (one was disabled), as they appeared long after the spring return rush, great numbers being observable on land on 8th, 9th, 10th to 12th March. Indeed it would almost appear that any records sent from Island- or East-Coast stations during spring were of probably maimed or weakly birds, or birds delayed long after the "return of the Woodcocks" in March. As before remarked, the spring birds were all small russet cocks, and they rested 9th, 10th, 11th and 12th March between Firths of Forth and Clyde, "lifted" again, and did not alight till they had crossed the German Ocean (see 1883 Report, pp. 80, 81). The autumn rush was considerably later than usual in 1884 (see details).

Regarding the unusually extensive migration of Gulls to our coasts in 1884-85, several suggestions as to the influencing causes are readily at hand, but the following appears to have the greatest weight and importance.

As we are informed in 'Nature,' of Feb. 12th, 1885, recent Norwegian explorations in the Spitzbergen seas show that the year 1884 was a very remarkable ice year. "The west side of Spitzbergen was blocked by a belt of land ice the whole summer through, whilst the east side, which is nearly always blocked with ice, was more open than it had been for many years. These conditions, there seems little doubt, depend on the prevailing direction of the winds."

Now, the temperature of water having been lowered by the accumulation of ice along the W. coast of Spitzbergen, which is comparatively approximate to the furthest N.E. influence of the Gulf Stream, it seems natural to suppose that a deflection of the branch of the Gulf Stream, caused by the colder Arctic ice and current, the accumulation of which former was caused by the

prevailing N. and E. winds on the Arctic Seas, would reach round past the S. end of Spitzbergen to the East Coast, and would cause the unusually open sea there. But the main channel of the Gulf Stream would still be towards the S.W., and would afford the natural outlet for all manner of ocean life, which requires certain temperatures; and which, such as Entomostraca, Copepodes, Molluscan larvæ, &c., afford food to other higher organisms.

The great quantity of such food which in ordinary summers and autumns accumulate around the shores of Spitzbergen, or in the warm shallow summer seas off the N. coast of Europe, no doubt retire to deeper water on the approach of winter. In unusually cold seasons the retreat is continued, following the course of the milder Gulf Stream until more temperate seas are reached.

In the course of its retreat it is discovered by vast shoals of fish, which pursue these minute forms of life even to the uttermost limits of its possible extension, up certain firths and inlets of our East Coast of Scotland. Naturally also the last link of the migratory chain is taken up by the enormous population of Gulls and other species of sea-fowl, as we know has been the case in the winter of 1884-5 in the Firth of Forth.

In the log of the steam whaler 'Eclipse,' Captain D. Gray (see Report, *antea*, p. 7) in summer, repeated mention is made of the unusual abundance of "whale food" in the Spitzbergen seas, and I am indebted also to Captain Gray, through Mr. Thomas Southwell, of Norwich, for a return of sea-temperatures of the same seas.

Mr. Hugh R. Milne, of the Marine Station at Granton, sends me some temperatures taken from the Firth of Forth, extending over June, 1884, to January, 1885, taken at three points, *viz.*, Isle of May, Queensferry, and near Alloa. These data, in connection with the vast swarms of sprats or garvies (*Clupea sprattus*) and the attendant thousands of Gulls, are useful for future comparisons, and I append them here. It would be interesting to know similarly taken temperatures of the Tay Estuary, which was completely deserted this season by these migratory fish, and consequently by the birds also. If we had also means of knowing the temperatures of the Firth of Forth in 1872-73, when a similar vast migration of Sprats and Gulls was

witnessed, such data would assuredly lead to most interesting, useful, and scientific results.

One great difference in the migration of Gulls in 1884-5 from that of 1872-3 is that in 1884-5 there were very few Glaucous Gulls (*Larus glaucus*) or Iceland Gulls (*L. islandicus*), but in 1872-3 both these species were in vast numbers, comparatively speaking. It seems to me possible that the 1872-3 migration indicated by these Arctic Gulls was of even wider and more extensive influence than that of 1884-5. But of course there is room here for still further elucidation and collection of statistics.

Again, while the Tay usually is visited by sprats in great sprat seasons, equally, or nearly so, with the Forth, and was so visited in 1872-3 though not to the extent that the Forth was, in 1884-5 it appears to have been almost utterly deserted by fish and bird alike. The cause was, no doubt, comparative scarcity of entomostracan life, dependent, most likely, upon certain undefined conditions of sea-temperatures, affected, possibly, from the river-basin of Tay and its tributaries. If light can be thrown upon these not-difficult-to-ascertain data, in a few years, at most, much of our uncertainty as to causes and effects of migration of Entomostraca, Sea-fish, and even Salmon and migratory Salmonidæ will be removed.

Temperatures of the Firth of Forth, June, 1884 *to January,* 1885.

	Isle of May.	Queensferry.	Near Alloa.
June (1884)	51	53	58
July	(52)	58	(60)
August	54	(59)	(65)
September	(53)	54	58
October	53	52	51
November	49	47	45
December	44	41	(38)
January (1885)	(43)	39	35
Range of surface temperature of the water	10°	20°	30°

Note.—The figures in brackets were not *observed*, but are entered hypothetically.

Mr. Milne, in writing to me, adds, "I believe that in hot summer days the temperature at Alloa would be 70° or more, and during severe winter weather would certainly be down

to 32°. My belief is that in October and April the temperature is uniform all over the Firth, and from April till October it is higher at Alloa than at the Isle of May, the difference attaining a maximum between July and August. From October to April it is lower at Alloa than at the May, the difference attaining a maximum about the end of the year. The maximum difference between the two places will be about 10° or 12°, giving a rate of change of 0° 2′ per mile." Suspended matter taken in ten samples at Kincardine on Forth varied from 5 to 20 grains per gallon, averaging about 10 grains.

Note.—It was at Kincardine on Forth, the narrowest part of the Firth, between Alloa and Borrowstoness, that the greatest quantities of sprats were taken.

I personally visited Kincardine several times both in 1872-3 and 1884-5, and witnessed the extraordinary congregation of Gulls and the myriads of sprats. In 1884-5 one smack anchored off the pier at Kincardine took 16 tons of garvies (or sprats) during one tide. There were, in all, some twenty smacks all lying anchored at this narrow part of the Firth, but all of these were not fishing with the small meshed nets; some for herrings only. Hundreds of tons were sold at from 14s. to, latterly, 8s. a ton, and were spread over the adjoining farm lands for manure. Hundreds of tons more were sold for making up a compost manure—being in themselves considered too rich in phosphates—to a firm in Alloa. Hundreds of tons more besprinkled the mud-flats at low tide, or hung by their gills in festoons along the tangle covered timbers of the piers. The water itself was alive with them, and every wave that broke on the lower piers left the piers covered with glittering garvies. A man with a minnow landing-net could have caught an indefinite number by sweeping each wave as it came in.

Mr. J. T. Cunninghame, of the Scottish Marine Zoological Station, Granton, in reply to inquiries, tells me that "his notes dating 28th Nov. show that Copepods were very numerous and varied in the Firth of Forth, as were also Molluscan larvæ. The temperatures of the water, as will be seen by Mr. Milne's notes in December and January, 1885, were lower than at any other time of the year being (38) and 35 near Alloa (and Kincardine) as compared with 41 and 39 at Queensferry, and 44 and 43 at Isle of May. By the 17th Nov., as is recorded in our Migration

Report, garvies are reported as very abundant around the Isle of May, at which time the temperature at that point was 49° against 47° at Queensferry and 45° at Alloa. These shoals were accompanied by great numbers of Gulls at Isle of May.

As early as March, 1884, vast numbers of Gulls are reported to have been fishing off N. Unst in Shetland for many weeks together, such an assemblage never having been observed before by the oldest inhabitant.

I feel convinced that a steady and carefully recorded journal of bird movements will result in very extensive additions to our knowledge of the natural laws which govern them.

In conclusion, I may say that in the course of another year's work we hope to be able to produce some certain data regarding this matter of relative conditions of the temperatures of the Arctic Ocean in 1884-5, and the data already given above, from inquiries now being made by Mr. Alexander Buchan of the Scottish Meteorological Society; also the connections between such data and the migrations of Entomostraca and "whales food"; also to institute a comparison with similar or dissimilar conditions in other years.

Mr. William Evans, a most careful and excellent Field Naturalist, sends me records of the occurrence of high Arctic birds on the Firth of Forth in 1884. The Grey Plover, Knot, and Bartailed Godwit were seen on the 9th August (which, however, was the first day Mr. Evans visited the shore). The Sanderling was seen on the 14th August, and the Little Stint on the 20th.

Anticipatory of our 1885 Report, it may interest our readers here to learn that the spring migration of 1885 has developed still more extraordinary results, such as the migration of Pied Flycatchers during the first week in May, past Pentland Skerries, Isle of May, and other stations; and the occurrence of such rarities as Ortolan Buntings, Red-backed Shrike, &c., at Isle of May about the same time. White Wagtails also have been commonly observed at land-stations. (*Vide* R. Gray, Esq.)

WEST COAST OF ENGLAND AND WALES.

SCHEDULES were sent to the forty-four lighthouses and light-vessels on the West Coast of England and Wales, and from twenty-five of them returns have been received.

The following is an enumeration of the stations, taken in order from north to south, those from which returns were furnished being marked with an asterisk :—

No. on Map.			
*119.	L.V.	Bahama Bank	John West.
*120.	L.H.	St. Bees	Henry Nott.
*121.	L.V.	Selker	D. Kneale and — Cumming.
*122.	L.V.	Morecambe Bay	Henry Clavell.
*123.	L.V.	Dee	S. Woek and J. Clague.
124.	L.H.	Air.	
125.	L.H.	Menai.	
126.	L.H.	Skerries.	
127.	L.H.	Holyhead Breakwater.	
*128.	L.H.	South Stack	William R. Burgess.
*129.	L.V.	Carnarvon Bay	Henry Hughes.
*130.	L.H.	St. Tudwal's	W. Monk.
*131.	L.H.	Bardsey Island	Thomas Bowen.
132.	L.V.	Cardigan Bay.	
*133.	L.H.	South Bishop	A. Hills.
*134.	L.H.	Smalls	Richard Evans.
135.	L.H.	Great Castle Head.	
*136.	L.H.	Milford	George Baker.
*137.	L.H.	Caldy	William Ebben.
*138.	L.V.	Helwick	Thomas Cornell.
*139.	L.V.	Scarweather	P. Frost.
*140.	L.H.	Nash (E.)	Henry Nicholas.
141.	L.H.	Breaksea.	
*142.	L.H.	Flatholm	W. Dale.
143.	L.V.	English and Welsh Grounds.	
*144.	L.H.	Usk	A. Russell.
145.	L.H.	Avon.	
146.	L.H.	Burnham.	

*147.	L.H.	Bull Point	George Knott.
*148.	L.H.	Bideford Bar	Thomas Gilpin.
149.	L.H.	Lundy.	
150.	L.H.	Hartland Point.	
151.	L.H.	Trevose Head.	
*152.	L.H.	Godrevy	Richard Trahair.
*153.	L.H.	Longships	J. W. Watson and Wm. Davies.
154.	L.V.	Sevenstones.	
155.	L.H.	Wolf Rock.	
156.	L.H.	Scilly.	
*157.	L.H.	Bishop's Rock.....	John W. Froth.
158.	L.H.	Lizard.	
159.	L.H.	Falmouth Harbour.	
*160.	L.H.	Eddystone	William Ainger.
161.	L.H.	Plymouth Breakwater.	
*162.	L.H.	Start Point.	William Jones.

The best thanks of the Committee are due to the above-named observers for their painstaking records and valued aid; and it is an added pleasure to acknowledge assistance received from several ornithologists, including Messrs. James Andrews, of Swanage, Dorsetshire; O. V. Aplin, of Banbury (notes from Barmouth District); W. Duckworth, of Carlisle; T. E. Kelsall, of Balliol College, Oxford; Rev. H. A. Macpherson, of Carlisle; and Mr. Arthur Patterson, of Preston. Special acknowledgment is due to the Rev. H. A. Macpherson for most hearty and welcome co-operation. The recorder trusts to enlist further aid from the naturalists of the West of England and Wales, as it will much enhance the value of the report to include in it observations made by trained and experienced ornithologists, from whom alone can be expected notes on critical and rare species.

In dealing with the mass of information received it has been thought best to treat of it under the following heads.

I.—A few General Remarks on the Report.

II.—Reports on the Migratory Season of 1884, communicated by several of the light-keepers and others.

III.—A Diary of the Principal Migratory Movements, which gives an idea of the importance of each movement, the area covered by it, and also indicates the species migrating in company.

IV.—A separate Report on each species.

I.—General Remarks.

The great mass of migrants during the past autumn seem to have passed stations decidedly south of Anglesea. The great movements appear to have taken place between Oct. 21st and 24th (inclusive), during which period some dozen species were noted; and again between Nov. 10th and 14th (inclusive), this being the most important movement, and applied no less than eighteen species observed at the lighthouses and lightships alone.

The report embraces notes on some rare or interesting species, including *Motacilla alba*, *Lanius major*, *Ampelis garrulus*, *Chen albatus*, *Querquedula circia*, *Phalaropus hyberboreus*, *Machetes pugnax*, *Hydrochelidon nigra;* whilst the scarcity or entire absence of *Passer montanus*, *Corvus cornix*, and *Bernicla brenta*, and the presence of *Bernicla leucopsis*, are of interest to one accustomed to East Coast observations. The capture, too, of eight *Procellaria pelagica* at the South Bishop, on Oct. 14th, is a noteworthy incident. The lanterns vary not a little in their death-dealing attractions, those of the Bardsey, South Bishop, Smalls, Nash (E.), Godrevy, and Eddystone lighthouses being most seductive, occasionally commanding no less than two hundred victims in a single night.

To be able to offer opinions, or even to speculate on the various problems connected with the migration of birds on the West Coast of England, will require much careful study based upon reports for some years, and it will be much regretted that this coast has been neglected for several seasons.

Chief attention should, perhaps, be paid to the relationship which exists between migration as observed on this coast and the great land mass of Ireland; thus to enable us, if possible, to give some indication of the lines of route, if any, taken by both summer and winter visitors and partial migrants on their passages to and from that country.

To this end a series of careful observations must and should be made, and special attention be given by observers to the direction taken by all migratory birds. This, it is thought, has not received the attention it deserves, and, as it may add a special value to the observations made, it is hoped that the lightkeepers (especially those on light-vessels) and others, who have so very willingly helped in the past, will give attention to this request.

II.—Reports from Stations on the Season.

Carlisle District (Messrs. Macpherson and Duckworth).—After a westerly hurricane on Jan. 26th, land birds (Jackdaw and Moorhen), as well as Guillemots, Puffins, Gulls, and Sheldrakes were washed ashore, while Mr. Cook found a large Skua; many Oystercatchers were observed far inland. February and March were dull; the usual fowl on the Loughs, including Pintail, Shovellers, Tufted Duck, and Barnacle Geese, were numerous during the first half of March, and a large flock were seen; as also a Goosander in mid-April. The general calm of the first week of April induced the van of our army of summer visitants to push on early; but the subsequent prevalence of easterly and north-easterly winds checked the main body. On the afternoon of April 29th the wind changed from east to west, and we had an immense influx of House Martins and other birds on the 30th. August was fine, and many Waders arrived early; but it appeared that the chief arrivals took place between the last week this month and the second week of September. Geese and Ducks arrived before the middle of October; and the heavy westerly winds on the 26th and 27th brought ashore the Pomatorhine Skua and Leach's Petrel. The weather continued chiefly open until the end of the year, but most Waders had left by the end of October. In November and December the Geese and Ducks alone relieved the monotony of the Solway.

St. Bees L.H.—Mr. Henry Nott tells me that birds are generally few, unless Starlings and Lapwings; Starlings have been exceptionally numerous during the winter; as for Thrushes and Blackbirds he scarcely ever sees one.

Morecambe Bay L.V.—Mr. Henry Clavell informs me that very few birds have passed this station during the past two years.

Nash (*E.*) L.H. (Mr. Henry Nicholas).—Birds have not been noticed in such large flocks as last year. The most decided and general movement took place between the 2nd and 15th of November. Wild Ducks have been very scarce this year, and Sky Larks and Starlings have not been observed in such immense numbers as in years past.

Start L.H.—Mr. William Jones notes that in very few instances birds are observed at his station.

III.—Diary of Principal Movements.

The order of the stations is from north to south. The wind and weather are given in parentheses. For the weather the symbols of the Beaufort Scale have been adopted;* and the force of the wind ranges from 0 to 12.

September 14th.

Dee L.V.—A Robin killed at 10.30 p.m. (E. by S., 5; B, C, M.)

Scarweather L.V.—Two Swallows at 11 a.m.

Nash (E.) L.H.—Two Landrails and one Starling killed at 2.15 a.m. (E., moderate; misty.)

Eddystone L.H.—Several Wheatears, "Flycatcher species" [Warblers], Wrens, and a few Larks, between 8 p.m. and midnight. Fifteen killed. (E., 5; O, R, M.)

Start L.H.—A Ring Ouzel killed at midnight. (E.S.E., 4; C, G, V, P.)

September 15th.

St. Bees L.H.—Numbers of Goldcrests at lantern at 11.30 p.m. (E., light breeze; misty.)

Dee L.V.—Titlark and Chaffinch found dead at daylight.

South Stack L.H.—Several Starlings and Wheatears between 9 p.m. and midnight. Several struck. (E., 4; O, M, R.)

September 16th.

St. Bees L.H.—Great numbers of Goldcrests from midnight to daylight. (S.E., light breeze; gloomy.)

September 17th.

St. Bees L.H.—Large numbers of Fieldfares at 7 a.m. (S.S.E., light; B, C, M.)

Bull Point L.H.—A Goldcrest at lantern at 1.30 am. (E., 1; bright.)

September 29th.

Longships L.H.—"A great host of Larks" at 4 am., "a lot striking." (Drizzling.)

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* *Beaufort Scale.*—B = blue sky; C, detached clouds; D, drizzling rain; F, fog; G, dark, gloomy; H, hail; L, lightning; M, misty; O, overcast; P, passing showers; Q, squally; R, rain; S, snow; T, thunder; U, ugly, threatening; V, visibility, unusual transparency; W, dew.

October 14*th.*

South Bishop L.H.—"Many Song Thrushes, Missel Thrushes, Blackbirds, Wheatears, Goldcrests, Linnets, Larks, and eight Storm Petrels, from 11 p.m. to daylight." Ninety killed by striking the glass, and two hundred taken in a net attached to a stick. Three "Falcon Hawks and a Large-horned Owl" were also present, "and made sad havoc with them." (S.E. breeze; mist and slight rain.)

Helwick L.H.—A Lark at lantern at 9 p.m.,

Eddystone L.H.—Four Goldcrests and a few common Wrens struck at midnight. Six killed. (N., 2; C, V.)

October 18*th.*

Bahama Bank L.V.—A flock of Crows at 3 p.m., flying S.W.

Dee L.V.—Several flocks of Titlarks at 7.15 a.m. (W., 3; O, D, V.)

South Stack L.H.—Finches, Linnets and Starlings between 7 and 10 a.m. (N.W., 3; clear.)

Carnarvon Bay L.V.—Hundreds of Larks all day, and a large number all night. (N.N.W., 4.)

Bull Point L.H.—Large flock of Starlings and forty Linnets at 7 a.m. (W., 2; clear.)

October 19*th.*

Bardsey L.H.—One Woodcock killed during night. (S., 5; C, M, D.)

Helwick L.H.—One Lark at 9 p.m.

Bishop Rock L.H.—A good number of Thrushes, Blackbirds, and Larks, from 11 p.m. to daylight. (N.N.W. to N.N.E.; misty.)

October 21*st.*

Selker L.V.—Several Larks and Starlings at lantern throughout the night, all went E. at daylight. (S.S.W., 3; O, M, R.)

Morecambe Bay L.V.—Several Larks and Bullfinches from 10 to 12 a.m., flying S.W.

Dee L.V.—Large numbers of Starlings and Titlarks and a few Thrushes during the early morning, many striking glass. (Very foggy.)

South Stack L.H.—Blackbirds, Thrushes, Starlings, and Larks, between 12 p.m. and 4 a.m. A few killed. (S.S.W., 4; mist and rain.)

Carnarvon Bay L.V.—One Starling killed at 11 p.m. Two Thrushes at 4 a.m.

St. Tudwall's L.H.—A Chaffinch killed at 11 p.m., and two Blackbirds at 3 a.m.

Bardsey L.H.—One hundred Starlings and "a goodly lot of Black and Grey Thrushes" in the morning. "Dozens" killed. (S.W., 3; C, P, D.)

Caldy L.H.—Three Starlings at 11 p.m.

Bull Point L.H.—One Starling at 5 a.m. (S.E.; clear.)

Godrevy L.H.—Great numbers of Redwings and Thrushes, and a few Starlings, Blackbirds, and Goldcrests, from 7 p.m. to 5 a.m. Thirty-two killed. (S.S.E., 2; C, M.)

Eddystone L.H.—Large numbers of Thrushes, Redwings, Blackbirds, Finches, Larks, and Starlings, from 6 p.m. to 3 a.m. About two hundred caught. (From E.N.E. to E.S.E.; O, M.)

Start L.H.—Three or four Starlings and a Thrush at lantern at 9 p.m. (E.S.E., 4; C, G, V.)

October 22nd.

Bahama Bank L.V.—Larks at the lantern all night.

Selker L.V.—Larks about lantern all night. (S.S.E., 5; cloudy and misty.)

River Dee L.V.—A Thrush killed at 7 p.m.

South Stack L.H.—Blackbirds, Finches, and Starlings, at 8 p.m. (S.W., 4; misty and showery.) About sixty Blackbirds, Thrushes, and Starlings, from 4 a.m. to 6 a.m. (S., 6; misty.)

Carnarvon Bay L.V.—Many birds at lantern from 6 p.m. Starlings and Thrushes killed. (S.S.E., 5; misty.)

Bardsey L.H.—A good lot of "Black and Grey Thrushes" at night. Scores killed. (S., 5; C, G, M.)

Smalls L.H.—Blackbirds and Thrushes from midnight to 4 a.m. (23rd). One hundred struck, fifty killed. (S.E., 4; O, M, R.)

Caldy L.H.—One Thrush, two Blackbirds, two Larks, and one Starling, at lantern between 8 p.m. and 2.30 a.m. (23rd). (S.S.E., 5; O, G, M.)

Bull Point L.H.—A female Blackbird killed at 4 a.m. (23rd). (S.E., 2; misty.)

Godrevy L.H.—One Blackbird, four Larks, and four Starlings, killed at 4 a.m. (23rd). (S.W., 3; C, M).

Longships L.H.—Thrushes, Goldcrests, Wrens, and Starlings, all night. Several killed. (S.S.E., 3; misty.)

October 23rd.

Bahama Bank L.V.—Larks, Starlings, and Blackbirds, at the lantern all night.

Selker L.V.—From 1.30 a.m. (24th) to daylight many Blackbirds, Larks, and Starlings at lantern; at daylight they all went East. (S.S.E., 4; misty.)

Dee L.V.—Four Thrushes, males and females, and a female Blackbird, killed between 6 and 8 p.m.; and nine Thrushes, males and females, and eight Blackbirds, males and females, between midnight and 6 a.m. (S.S.E., 4; fog.)

South Stack L.H.—A flock of Crows passing to S. at 10 a.m.

Carnarvon Bay L.V.—Large flocks of Crows at 8 a.m., also a great many small birds, passing S. during the day. (S., 4; M.)

Milford L.H.—Linnets, Larks, and Starlings, passed. (S., 4; M.) The same on the 24th.

Scarweather L.V.—Flocks of Larks and Starlings at intervals, from 2 a.m. to 12 a.m. (S.E., 4; misty.) The same on 24th.

Longships L.H.—Thrush, Goldcrests, Wrens, and Starlings, all night. (S., 3; misty.)

October 24th.

South Stack L.H.—Several Blackbirds, Larks, and Starlings, killed between 8 and 10 p.m. (N.N.E., 2; misty.)

Caldy L.H.—Large flocks of Linnets at noon.

Scarweather L.V.—Flocks of Linnets, Larks, and Starlings, from 10 a.m. to 2.30 p.m. (S.E., 4; misty.)

Flatholm L.H.—"Chiffchaff" and Crested Wrens all night. Some killed. (Variable; B, C, M.)

Eddystone L.H.—Several Thrushes and Larks from 9 p.m. to midnight. Several killed. (E.N.E., 2; C, M.)

November 4th.

Smalls Rock L.H.—A great number of Blackbirds, Thrushes, Fieldfares, Goldcrests, Larks, Starlings, and "Furse Cap,"

during the night. Eighty-eight struck the lantern, and forty were killed. (N.W., 6; cloudy.)

Flatholm L.H.—A small flock of Blackbirds and Thrushes at 8 a.m. (S.W., 6; calm.)

November 6th.

Bahama Bank L.V.—Four Crows at 8.30 a.m., flying W.N.W.

Selker L.V.—Eight Larks going N.E. at 1.40 p.m. (S.E., 4; B and M.)

Smalls Rock L.H.—Numbers of Blackbirds, Thrushes, Redbreasts, Wrens, "Lady Wagtails," Greenfinches, Larks, Water Rails, and Ducks, from 11 p.m. to 5 a.m. (7th). One hundred struck the lantern, and seventy were killed. (S.E., 5; O, M.)

Nash (E.) L.H.—Eight to ten Fieldfares at noon, passing to S.W. (E., breeze; misty, rain.

November 8th.

Smalls Rock L.H.—A very large flock of Rooks at 10.30 a.m. (E.S.E.; B, C, V.)

Nash (E.) L.H.—A Woodcock, wheeling round the lantern at 2.45 a.m., and after a while passed S.W. (N.E., light; clear.)

November 10th.

Bahama Bank L.V.—A large number of Thrushes, Blackbirds, and Larks, all night. Fifty or sixty killed. (S., 5; fog.)

Selker L.V.—A great many Titlarks and Starlings around the lantern from 7 to 11 p.m.; numbers striking. Ten Larks and seven Starlings found dead on deck. (S.S.E., 5; B and misty.)

Morecambe Bay L.V.—Several Sky Larks and Titlarks, between 8 and 12 a.m., flying S. by E.

Dee L.V.—Many Thrushes, Blackbirds, Starlings, and Titlarks, from 8 a.m. to midnight. Fourteen picked up on deck, and large numbers falling overboard. (S.E. by E.; fog.)

Carnarvon Bay L.V.—"Large quantities of birds all night," leaving for south at daylight. (S.S.E., 5; B, C, M.)

Nash (E.) L.H.—Blackbirds and Thrushes from 2 to 4 a.m.; eleven killed. (N.E., breeze; misty.) Blackbirds, Thrushes, Redwings, Larks, and Starlings, passing all night, many striking, and a few killed. (E.S.E., breeze; misty.)

Godrevy L.H.—Many birds at lantern from 10 p.m. (Nov. 10th)

to 7 a.m. Twenty Blackbirds, eighteen Thrushes, two Fieldfares, and four Larks killed. (S.E., 2; C, M.)

Longships L.H. — Many Starlings and Larks at 1 a.m. (E.S.E., 2; fog.)

Eddystone L.H.—One Snipe struck and caught at 11 p.m. (S.E. by E., 5; C, V.)

November 11th.

Bahama Bank L.V.—Large numbers of Thrushes, Blackbirds, and Larks, all night. Many killed. (S., 5; fog.)

Morecambe Bay L.V.—Blackbirds and Thrushes at lantern during the night. (S.E., 4; B, F.)

Nash (E.) L.H.—About a dozen Golden Plover at 9.30 a.m. Blackbirds, Thrushes, Sky Larks, Starlings, &c., from 7 to 11 p.m., a great number of which struck, twenty being killed. (E.S.E., breeze; cloudy, misty.)

Flatholm L.H.—Blackbirds and Starlings passing all day. (S.E., 2; B, M.)

Eddystone L.H. — Thrushes, Larks, and Starlings, from 10 p.m. to 6 a.m. (12th). Several struck and caught. (S.E. to S.S.E., 2; C, V.)

Start L.H.—A few Larks at midnight. One killed. (E.S.E., 2; C, G, V.)

November 12th.

Morecambe Bay L.V.—About forty Blackbirds, flying S. by E., at 11.40 am. (S.S.E., 4; F.)

Dee L.V.—Several flocks of Titlarks, going S. throughout the day.

Bardsey L.H.—Several Thrushes, Chaffinches, Greenfinches, and Linnets, at the lantern all night. (S., 5; C, P, D.)

Nash (E.) L.H.—Two Woodcocks struck between 3 and 4 a.m. (E., gentle; misty.) Snipe at 7 p.m., six striking, four killed. At 8.45 a Wood Pigeon killed. From 9 to 11.30 p.m., Snipe, Lapwings, &c; two Snipe and three Lapwings being killed. (E., breeze; misty.).

Eddystone L.H.—One Ring Ouzel, two Blackbirds, several Thrushes and Starlings, from 9 p.m. to midnight. (S.E. by E., 3; O, D.)

Start L.H.—One Snipe killed at midnight. (S., 3; C, V.)

November 13th.

Morecambe Bay L.V.—Several Chaffinches at 11.30 a.m., flying S.S.E. (N.N.E., 4; B, M.)

Caldy L.H.—Blackbirds, Larks, and Plovers, from 3.30 to 4.30 a.m., flying about the lantern. Several of each species killed. (N.N.E., 5; O, G, M.)

Helwick L.V.—"A great number of species," including Blackbirds, Thrushes, Larks, and Starlings, at the lantern all night and till sunrise. A great number killed. (N.E., 3; O, M.)

Scarweather L.V.—Flocks of Larks passing at intervals during the day. A Blackbird killed at 10.30 p.m. (E., 4; G, M.)

Nash (E.) L.H.—Blackbirds, Larks, Woodcocks, Snipes, and Wood Pigeon, from 2 to 5 a.m. Some of each species killed. (E., gentle; mist and rain.)

Longships L.H.—"Scores" of Fieldfares, Blackbirds, and Starlings. Many striking, and several killed. (E.N.E., 3; very misty.)

November 14th.

Caldy L.H.—A large flock of Plovers flying inland at 11 a.m. (N.E., 5; B, C, M.)

Scarweather L.V.—A very large flock of Rooks at 11 a.m. (S.E., 5; B, C, M.)

Nash (E.).—Two Woodcocks (killed), and Starlings at 3 a.m. Fieldfares, Redwings, Blackbirds, and Larks, from 12 p.m. to 4 a.m.; eleven killed. (E., gentle breeze; misty.)

Bishop Rock L.H.—Several hundreds of Thrushes, Missel Thrushes, Redwings, Fieldfares, Larks, Starlings, and Lapwings, from 10 p.m. to daylight. (E., 4.)

Eddystone L.H.—"Several birds" struck, but "lost over," from 11 p.m. to midnight. (E.S.E., 5; B, C, V.)

December 23rd.

Smalls Rock L.H.—Thrushes and Blackbirds from 1 a.m. until sunrise, flying round the lantern. (S.E., 5; O, M.)

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February 15th.

South Bishop L.H.—Ninety-seven Blackbirds, Thrushes, Larks, and Starlings, caught at 3 a.m. (S.E., 2; fog and rain.)

February 17th.

South Bishop L.H.—Seventeen Blackbirds, eleven Thrushes, and four Larks, caught at 5 a.m. (S.E., 4; rain and mist.)

IV.—Separate Report on each Species.

Turdus viscivorus,* Missel Thrush.—Oct. 14th, South Bishop L.H., along with other species, and in some numbers, from 11 p.m. until daylight. Oct. 14th, Merionethshire, many on this and following days. Oct. 20th, Eddystone L.H., a male struck at 2.30 a.m. Nov. 14th, Bishop's Rock L.H., many, along with other species, from 10 p.m. until daylight.

Note.—Doubtless the numerous records of "Thrushes" may, in many cases, include this species and also the Fieldfare and the Redwing.

Turdus musicus, Song Thrush.—Spring: Godrevy L.H., March 4th, a few from 2 to 5 am. (E.S.E., veering S.S.W.; O, M, R.) Bishop Rock L.H., April 21st, in numbers, along with Blackbirds, Ring Ouzels, and Wheatears, from midnight to 4 a.m. (E., 2; misty.) Autumn: Noted from seventeen stations,—appearing first at Flatholm on Oct. 6th, and continuing at intervals to Dec. 1st at the Dee L.V., or indeed until Feb. 17th at South Bishop. An important movement commenced on Oct. 20th, when heavy flocks were noted at Bardsey L.H.; and on the 22nd it occurred abundantly at nearly all the stations from the Dee to Eddystone, the movement being continued on the following night at several stations between the Dee and Land's End (Longships). Another important migration commenced on the 10th of Nov., and lasted until the 14th. Noted only during the night or early morning, and mostly in company with other species. Observations made on the sex of those killed at Dee L.V., prove that males and females migrate in company.

Turdus iliacus, Redwing.—Carlisle, Oct. 6th, first seen by Mr. Cairns; Oct. 21st and 22nd, many passing S., between 11.30 and 12.30 p.m. Godrevy L.H., Oct. 21st, a great number, from 7 p.m. to 5 a.m. Eddystone L.H., Oct. 21st and 22nd, large numbers, between 6 p.m. and 8 a.m. Nash L.H., Nov. 10th,

* The zoological sequence and nomenclature adopted is that of the 'List of British Birds,' compiled by a Committee of the British Ornithologist's Union. London: John Van Voorst. 1883.

passing all night along with other species, and again on the 14th. Bishop Rock L.H., Nov. 14th, many, from 10 p.m. to daylight. Only noted in company with other species, and during the night and early morning.

Turdus pilaris, Fieldfare.—St. Bees L.H., Sept. 17th, in large numbers at 7 a.m. Nash L.H., Oct. 6th, a few at noon, passing S.W.; and again on the 14th, in company with Redwings, at 8 a.m. Carlisle, Oct. 4th, a few; and on 21st a large flock. Smalls Rock L.H., Nov. 4th, many during night. Preston, Nov. 6th, along with Redwings. Godrevy L.H., Nov. 9th, two killed during night. Longships L.H., Nov. 13th, "scores" all night. Bishop Rock L.H., Nov. 14th, many, along with other species, from 10 p.m. to daylight.

Turdus merula, Blackbird.—Spring: Bishop Rock L.H., April 21st, many, along with Wheatears, Ring Ouzels, and Thrushes, from midnight to 4 a.m. (E., 2; misty.) Autumn: Reported from twenty stations. First observed at St. Tudwall's, Oct. 4th, the migration lasting until Dec. 23rd (Smalls Rock L.H.), or even until Feb. 17th, when many occurred at the South Bishop L.H., but this may have been a *return* movement. A general movement took place from Oct. 20th to 25th, and again from Nov. 2nd to 17th, when the species occurred in great numbers at many stations. All the reports, with two exceptions (at Flatholm L.H. a small flock was observed at 8 a.m. on Nov. 11th, and at Carnarvon Bay L.V. a few were observed at noon on Nov. 20th), mention it as migrating only during the hours of darkness, and most often in company with Larks and Starlings.

Turdus torquatus, Ring Ouzel.—Spring: Bishop Rock L.H., April 21st, many, along with Blackbirds, Thrushes, and Wheatears, from midnight to 4 a.m. (E., 2; misty.) Autumn: Eddystone L.H., Sept. 1st, a male struck lantern at 3.30 a.m. (W.S.W., 4; O, R, V.) Merionethshire, Oct. 14th, several young birds in the garden of Arthog Hall Hotel, near Dolgelly; Eddystone L.H., Nov. 12th, one, between 9 p.m. and midnight. (S.E., 3; O, D.) Start L.H., Sept. 14th, one killed at midnight. (E.S.E., 4; C, G, V, P.)

Saxicola œnanthe, Wheatear.—Spring: Carlisle, April 11th, on the fells. Bishop Rock L.H., April 21st, many, from midnight to 4 a.m., along with Blackbirds, Thrushes, and Ring Ouzels. (E., 2; misty.) Autumn: Duddon Sands, about Aug. 15th,

large flocks preparing to migrate. Eddystone L.H., Aug. 26th and 27th, several, between 11 p.m. and 2 a.m.; four killed. (N., 4; O, R, V.) Sept. 14th, several, from 8.30 p.m. to midnight; six killed. (E. 5; O, R, M.) South Stack L.H., Sept. 15th, several struck, between 9 p.m. and midnight. (E. 4; O, M, R.) Carlisle, Oct. 11th, an old male at Allonby. South Bishop L.H., Oct. 14th, along with Turdidæ, Larks, and Goldcrests, from 11 p.m. to daylight. (S.S.E., breeze; misty.)

Pratincola rubetra, Whinchat.—Spring: Carlisle District, plentiful on and after May 2nd.

Ruticilla phœnicurus, Redstart.—Spring: Carlisle District, a single old male, April 7th.

Erithacus rubecula, Robin.—Dee L.V., Sept. 14th, one killed at 10.30 p.m. (E. by S., 5; B, C, M.) St. Tudwall's L.H., Oct. 14th, one on the lighthouse at 3 p.m. Smalls Rock L.H., Nov. 6th, along with other species, from 11 p.m. to 5 a.m.; some killed. Flatholm L.H., Nov. 12th, "Robins have been numerous for some days." Bideford Bar L.H., two, at 10.30 a.m.

Sylvia cinerea, Whitethroat.—Spring: Carlisle District, April 8th, one.

Phylloscopus rufus, Chiffchaff.—Spring: Carlisle District, April 8th, first heard.

Phylloscopus trochilus, Willow Wren. — Spring: Carlisle District, April 6th, but not numerous until the 30th.

Locustella nævia, Grasshopper Warbler.—Spring: Carlisle District, May 6th, first heard.

Regulus cristatus, Goldcrest.—Carlisle District, numerous during the last week in August, and apparently an influx during the last week in September. Bardsey L.H., Aug. 28th, "scores" during the night, "dozens" striking. St. Bees L.H., Sept. 15th, numbers struck the lantern at 10.30 p.m.; Sept. 16th, great numbers from midnight until near daylight. Bull Point L.H., Sept. 17th, one at lantern at 1.30 p.m.; Oct. 20th, two at lantern in the early morning. Flatholm L.H., Sept. 18th, numerous on the island; Oct. 24th, all night, some killed. Nash (E.) L.H., Oct. 1st, from eight to ten at 11 p.m.; five killed. South Bishop L.H., Oct. 14th, along with other species, from 11 p.m. to daylight. Eddystone L.H., Oct. 14th, four killed at lantern at midnight; Oct. 15th, two struck at 4 a.m. Longships L.H., Oct. 22nd, one during the night. Smalls Rock L.H.,

Nov. 4th, along with other species during the night. Dee L.V., Nov. 16th, one found dead on deck.

Troglodytes parvulus, Wren.—Morecambe Bay L.V., Sept. 12th, one at 8 a.m., flying S.W. Eddystone L.H., Sept. 14th, several, from 8.30 p.m. to midnight; Oct. 14th, a few at midnight; Oct. 20th, several at lantern at 2.30 a.m. Helwick L.V., Sept. 18th, several flying round the lantern in the early hours of the morning. Carnarvon Bay L.V., Sept. 30th, one struck at daybreak. Nash (E.) L.H., Oct. 10th, four at 8.30 a.m., flying W.; Oct. 11th, two struck at midnight. Longships L.H., Oct. 22nd and 23rd, along with other species at midnight. Smalls Rock L.H., Nov. 6th, great movement, along with other species, from 11 p.m. to 5 a.m.; many killed. Observed migrating between Sept. 12th and Nov. 4th.

Motacilla ————, "Wagtail."—Bardsey L.H., Aug. 27th, several "Lady Wagtails" observed about the lighthouse. Carnarvon Bay L.V., Oct. 4th, "a Wagtail" flying N.E. at 3 p.m. St. Tudwall's L.H., Oct. 10th, two "Black and White Wagtails" on the island at 9 a.m. Dee L.V., one at noon, flying N.E. Smalls Rock L.H., "Lady Wagtails," along with other species, from 11 p.m. to 5 a.m.

Motacilla alba, White Wagtail.—Spring: Carlisle District, April 15th, one, on the lawn at Rose Castle.

Anthus ——, "Pipit," "Titlark."—Reported from Morecambe Bay L.V., Selker L.V., Dee L.V., St. Tudwall's L.H., Bardsey L.H., Flatholm L.H., and Start Point L.H. First noticed at Bardsey on Aug. 27th. General movements on Oct. 18th, 21st to 24th, and again on Nov. 2nd, 8th, 10th, and 12th, until Nov. 14th at the Dee L.V. Recorded as migrating both by day and night, but chiefly during the hours of light.

Anthus trivialis, Tree Pipit.—Spring: Carlisle District, April 11th, first seen.

Anthus obscurus, Rock Pipit.—Carlisle District, October, a decided immigration to the salt marshes.

Lanius excubitor, Great Grey Shrike.—Carlisle District, Sept. 13th, a male shot at Haggyford. December (second week), one seen at Orton.

Lanius major, Pallas's Great Grey Shrike.—Carlisle District, Jan. 8th, one seen, shortly afterwards shot. Feb. 6th, another "very blue bird" seen at Grimsdale.

Ampelis garrulus, Waxwing.—Carlisle District, Oct. 12th, one seen close, at Cotehill; two seen on the edge of King Moor, by Mr. Armstrong; they permitted a close approach, as they were busily feeding on hips ("tupes"). Jan. 28th, 1885, one at Rockliffe; probably the bird seen a few days later by Mr. Lester.

Hirundo rustica, Swallow.—Spring: Carlisle District, one seen on April 9th. Preston, April 28th, a pair. Morecambe Bay L.V., five at 12.30 p.m., flying S.E.; May 18th, two at 4.30 a.m., flying N.N.W. Autumn: Dee L.V., Aug. 31st, twenty at 10 a.m., flying E.; Sept. 14th; two at 1.10 p.m. Usk L.H., Sept. 5th and 6th, great numbers from 9 to 12 a.m. Morecambe Bay L.V., Sept. 11th, four at 7.30 a.m., flying S. Scarweather L.V., Sept. 12th, six at noon; Sept. 14th, two at 11 a.m.; Sept. 18th, parties at intervals, from 7 a.m. to 6 p.m. (S.E.; misty.) Flatholm L.H., Sept. 12th and 13th, large flocks going S. all day. Helwick L.H., Sept. 18th, several during the morning; Oct. 6th, two at 7.30 a.m., flying S. Selker L.V., Oct. 2nd, one going S.E. at 10 a.m. Carlisle District, a small flock seen on Oct. 22nd; one captured on Nov. 5th in wretched plight. Swanage, Nov. 13th, in considerable numbers; one on the 14th, and another on the 18th.

"Martin."—Flatholm L.H., Aug. 26th, continuous flocks of Martins and Swifts going S. at about 10 a.m. (N.N.W., moderate.); Sept. 13th, large flocks all day. (E.N.E., fresh.) Helwick L.V., Oct. 7th, two at 12.30 p.m. (N., gentle; B, C, M.)

Chrysomitris spinus, Siskin.—Carlisle District, March 6th, one female shot; after which none were seen (except a pair of breeding birds) until Dec. 15th.

Fringilla montifringilla, Brambling.—Carlisle District, last seen in flocks in March; a few in October; numerous in some localities in November.

Ligurinus chloris, Greenfinch.—Bardsey L.H., Sept. 20th, several flocks of small birds during the day, including this species; Nov. 12th, some about the lantern all night. Smalls Rock, L.H., Nov. 6th, many, along with Thrushes, Blackbirds, Robins, &c., from 11 p.m. to daylight. Some killed.

Passer domesticus, Sparrow.—Helwick L.V., Oct. 30th, several at 7.30 a.m., flying S.E. (S.W., breezy.)

Fringilla cœlebs, Chaffinch.—Scarweather L.V., Sept. 12th,

four at 7.30 a.m. Dee L.V., Sept. 15th, one found dead at daylight; Oct. 24th, one on deck at noon. Bardsey L.H., Sept. 20th, observed along with Greenfinches, Larks, and Linnets; Nov. 12th, several, with other species, at the lantern all night. Nash (E.) L.H., Sept. 21st, a few at 2 a.m.; seven struck, four killed. St. Tudwall's L.H., Oct. 21st, one killed at 11 p.m. Morecambe Bay L.V., Nov. 1st, one resting on the vessel at 1.30 p.m.; Nov. 30th, several at 11.30 a.m., passing S.S.E.

Linota ———. Under the heading of "Linnets" there is the under-given information. Scarweather L.V., Sept. 17th, 24th, and 29th, flocks at intervals during the daytime. Bardsey L.H., Sept. 20th, many on the island; Nov. 12th, many at the lantern all night, with other species. South Stack L.H., Oct. 5th, continuous flocks between 8 and 9 a.m.; Oct. 18th and 20th, flocks, composed of Linnets, Finches, and Starlings, between 7 and 10 a.m. South Bishop L.H., Oct. 14th, many, along with other species, from 11 p.m. to daylight. Milford L.H., Oct. 14th, a few; 23rd and 24th, along with Larks and Starlings. Bull Point L.H., Oct. 18th, about forty at 7.30 a.m. Scarweather L.V., Jan. 4th, 1885, a flock at 10.30 a.m. It is possible that in addition to *Linota cannabina*, that *flavirostris* and even *rufescens* may be referred to.

Pyrrhula europæa, Bullfinch.—Morecambe Bay L.V., Oct. 21st, several, in company with Larks, from 10 to 12 a.m., flying S.S.W.

Plectrophanes nivalis, Snow Bunting.—Carlisle District, Nov. 15th, first seen at Rickerby; large flocks on Crossfell same time; shot a pair of old birds, very white, at Silloth, Dec. 11th; a flock on Skinburness, same time.

Sturnus vulgaris, Starling.—The very numerous entries of the movements of this species would furnish quite a voluminous report in itself, and forms quite a feature of the returns. It is noted frequently at all the stations making returns, save two, between Aug. 31st, at Flatholm L.H., and Feb. 15th, 1885, at the South Bishop L.H.; often in very considerable numbers, and both during the daytime and at night, when occasionally many perish at the lanterns. The number and continuity of the movements of this species, as observed at some stations, may, in a measure, be due to its well-known habit of massing in the autumn and winter. These flocks disperse in the morning,

when the birds seek their food at varying distances from their roosting-quarters. They return in the evening, and in doing so would pass many of the West Coast stations, not a few of which are situated in estuaries easily crossed. For further details of the movements of this species consult the diary preceding this section of the Report.

Corvus corone, Crow.—St. Tudwall's L.H., Oct. 4th, several at 9 a.m., flying W. Carnarvon Bay L.H., Oct. 23rd, a large flock, passing S. at 8 a.m. South Stack L.H., a flock, passing S. at 10 a.m. Selker L.V., Nov. 10th, one going S. at 2.30 p.m. Bideford Bar L.H., Dec. 12th, forty at 7.30 a.m.

Corvus cornix, Hooded Crow.—Merionethshire, one seen about the end of October. Carlisle District, "a single straggler" shot, Nov. 14th.

Corvus frugilegus, Rook.—Smalls L.H., Nov. 7th, seven at 9.30 a.m.; Nov. 8th, a very large flock at 10.30 a.m. Scarweather L.V., Nov. 14th, a very large flock at 11 a.m.

Alauda arvensis, Sky Lark.—Under this heading and the general term of "Lark" there are very numerous entries, most of which doubtless refer to this species; but experience leads one to opine that in some instances the Meadow Pipit, or "Titlark," may be meant. Recorded from most stations between Sept. 14th at Eddystone and Feb. 17th, 1885, at the South Bishop. On Oct. 21st there was a general movement, the species being observed from the Selker L.V. to the Eddystone L.H. Great numbers occurred at the Longships L.H. on Sept. 29th, at the South Bishop L.H. on Oct. 14th, and on Nov. 4th and 6th at the Smalls Rock L.H. Migrates during the daytime, and rarely at night. Mr. Hills, of the South Bishop, says that flocks of Larks pass south, during the daytime, from November until the end of January.

Cypselus apus, Swift.—Spring: Carlisle District, April 28th, one flying at a considerable height. Autumn: Carlisle District, Aug. 17th, one seen; another on the 19th. Flatholm L.H., Aug. 26th, continous flocks of Swifts and Martins passing south at 10 a.m.

Cuculus canorus, Cuckoo.—Carlisle District, April 14th, seen and heard.

STRIGES "Large-horned Owl" (? *Asio accipitrinus*). — South Bishop L.H., Oct. 14th, one hovering around the lantern,

between 11 p.m. and daylight, making, along with three "Falcon Hawks," "sad havoc" with the numerous smaller species present.

Asio accipitrinus, Short-eared Owl.—Carlisle District, Sept. 6th, one adult female; one in November; strange to say, no others.

Accipitres.—Under the heading of "Hawk" there are the following records:—Morecambe Bay L.V., May 11th, one flying E. by S. in the early morning. South Bishop L.H., Oct. 14th, between 11 p.m. and daylight, three "Falcon Hawks" and a "Large-horned Owl" made "sad havoc" among the numerous birds around the lantern. St. Tudwall's L.H., Oct. 18th, one small Hawk at sunset going S.W. Helwick L.V., Oct. 30th, a Hawk at 7 a.m.

Falco peregrinus, Peregrine.—Carlisle District, Oct. 11th, one, near Allonby.

Falco æsalon, Merlin.—Carlisle District, Oct. 27th, one seen on Rockliffe; another, male adult, shot, Nov. 8th; female and male, juv., subsequently.

Ardea cinerea, Heron.—Bardsey L.H., Aug. 28th, one on the island; Sept. 13th, two in the evening. St. Tudwall's L.H., Nov. 29th, one at 3 p.m.; Jan. 23rd, 1885, one at 2 p.m.

Phalacrocorax carbo, Cormorant.—Bull Point L.H., Aug. 22nd, six at 6 a.m., flying W. Nash (E.) L.H., Sept. 1st, one at 11 a.m., passing N.W. Bardsey L.H., Dec. 19th, four during the morning. Bahama Bank L.V., Dec. 18th and 19th, single birds seen.

"Grey Geese."—Carlisle District, Oct. 10th, large arrival, most of which passed on. Mr. Macpherson's impression is that Bean, Pink-footed, and Greylag, all occurred during the autumn and winter; but the only birds shot belonged to the first-named, *A. segetum*. Two of these were shot, out of a flock of twenty-five. Carnarvon Bay L.V., Jan. 4th, 1885, forty at 10 a.m., flying N.N.W.

Chen albatus, Snow Goose.—Carlisle District, Aug. 22nd, one adult, Allonby, 9 a.m., weather very hazy; flew from west (Irish Channel?) to east. Followed up all day, to no purpose. Seen again Sept. 8th and Oct. 14th. It is impossible to shoot Geese on the Solway in open weather, except at night.

Bernicla leucopsis, Barnacle Goose.—Carlisle District, large

arrival about Oct. 10th. A flock of considerably more than a hundred rose off Rockliffe Marsh, and pitched on the Burgh side, early on Oct. 16th. A flock, estimated at between 600 and 1000 birds, visited Rockliffe in December.

Cygnus bewicki, Bewick's Swan.—Carlisle District, Nov. 23rd, single bird, Monkhill; sharp frost.

ANATIDÆ.—Teal. A pair noted at St. Bees on Aug. 24th. The references to Ducks, at both the Selker and Dee light-vessels, are very numerous; at the latter "Black Duck" (? Scoters) were first noted on Sept. 10th. "Ducks" are chronicled from many stations, but unfortunately without reference to species.

Harelda glacialis, Long-tailed Duck. — Carlisle District, immature male, Monkhill, Jan. 24th to March 19th.

Œdemia nigra, Common Scoter.—Carlisle District, Oct. 24th, one; others afterwards.

Mergus merganser, Goosander.—Carlisle District, Oct. 30th, one, immature; twelve others shot to Dec. 31st, three being adult males, which are very scarce here.

Mergus serrator, Merganser.—Carlisle District, Oct. 31st, immature male; another later. A scarce bird with us.

Chaulelasmus streperus, Gadwall.—Carlisle District, Oct. 21st, one, immature; shot on Eden.

Querquedula circia, Garganey.—Carlisle District, March 11th, two females, shot out of a small flock.

Mareca penelope, Wigeon.—Carlisle District, large flock on the Esk in mid-September.

Fuligula marila, Scaup.—Carlisle District, Nov. 23rd, a single adult male, Monkhill; others subsequently on Solway.

Clangula glaucion, Golden-eye.—Carlisle District, April 28th, two old drakes and several others at Monkhill. First, immature, Oct. 10th; numerous in November.

Columba palumbus, "Wood Pigeon."—Nash (E.) L.H., Oct. 12th, one killed against the lantern at 8.45 p.m.; on this night, Snipe, Woodcocks, and Lapwings were also immolated; Oct. 13th, another killed between the hours 2 and 5 a.m., again along with the species just mentioned; Oct. 15th, one killed at 11 p.m.

Charadrius pluvialis, Golden Plover.—Nash (E.) L.H., Oct. 11th, about a dozen, passing S. at 9.30 a.m. Caldy L.H., Oct. 29th, fourteen at 3 p.m.; "their first appearance this season."

Nov. 13th, several at the lantern, along with other species, at 3.30 a.m.; two killed. 14th, a large flock at 11 a.m. Bardsey Island, Dec. 20th, 24th, and 26th, several shot. In the Carlisle District young birds were making for the coast on the 9th of July.

Ægialitis hiaticula, Ringed Plover.—Carlisle District, Aug. 28th, immense mixed flock of this and Dunlin; about one-third only were Dunlins; nearly all the Ringed Plover were adults, and large birds.

Eudromias morinellus, Dotterel.—Carlisle District, one shot, *circa*, April 20th; several others shot in the "Lakes" for the fly-dressers, which is much to be regretted.

Rallus aquaticus, Water Rail.—Nash (E.), L.H., Oct. 26th, one killed at 2.40 p.m. (westerly gale, mist and rain). Smalls Rock L.H., Nov. 6th, several, along with other species, from 11 p.m. to 5 a.m. (S.E. breeze, O.M.)

Crex pratensis, Land Rail.—Spring: Carlisle District, April 17th, a male; 22nd, another. Autumn: Nash (E.) L.H., Sept. 12th, one killed at midnight. (E. breeze, misty); Sept. 13th, two killed at 2.15 a.m. (moderate E. breeze, misty). Bishop Rock L.H., Sept. 20th, one, along with Wheatears, struck glass between 2 and 5 a.m. Carlisle District, Oct. 28th, one at Flunby. Bardsey Island, Mr. Bowen remarks that this species came very early and left the island sooner than usual in consequence of the dry season.

Vanellus vulgaris, Lapwing.—St. Bees L.H., Aug. 27th, a flock of two or three hundred appeared at 10 a.m. Carnarvon Bay L.V., Oct. 2nd, one at 11 a.m. Nash (E.) L.H., Oct. 12th, Lapwings and Snipe from 9 to 11.30 a.m., three Lapwings killed; Oct. 15th, a large flock passing S.W. at 10 a.m. Bishop Rock L.H., Nov. 14th, many, along with Blackbirds, Redwings, &c., from 10 p.m. to daylight. Bardsey L.H., Dec. 10th, several during the day; Dec. 20th to 26th, flocks, along with Golden Plover. Scareweather L.V., forty or fifty at 11.30 a.m.

Strepsilas interpres, Turnstone.—Carlisle District, Aug. 4th, two. Skinburness, September 6th, one female, immature.

Scolopax rusticula, Woodcock.—Reported from two stations only. Bardsey L.H., Oct. 19th, one killed during the night. Nash (E.) L.H., Oct. 8th, one at 2.45 a.m., which, after wheeling round the lantern for some time, passed S.W. (N.E., bright and

clear); Oct. 12th, two struck between 3 and 4 a.m., one killed; Oct. 13th, one killed between 2 and 5 a.m.; Oct. 14th, two killed at 3 a m. Merionethshire, Oct. 14th, one in Arthog woods.

Gallinago cœlestis, Snipe.—Scareweather L.V., Sept. 10th, two at 1.23 p.m. Nash (E.) L.H., Oct. 12th, six struck, four of which were killed, at 7 p.m., and between 9 and 11.30 p.m. two more were killed; Oct. 13th, two killed between 2 and 5 a.m., along with Blackbirds and Woodcocks. Eddystone L.H., Nov. 10th, a male caught at lantern at 11.15 p.m. Start L.H., Nov. 12th, one killed at midnight. Bideford Bar L.H., Dec. 13th, "Eight Snipe."

Tringa subarquata, Curlew Sandpiper.—Carlisle District, Solway, Sept. 3, one, immature, shot with some Dunlins.

Tringa striata, Purple Sandpiper.—Carlisle District, a few arrived early in October; one immature, "telegraphed" Oct. 24.

Machetes pugnax, Ruff.—Carlisle District, Aug. 30, one, female, Rockliffe; Sept. 8th, six, Burgh; Sept. 10, one, female, Skinburness; all immature, and, with the exception of the first, too hard hit for preservation.

Tringoides hypoleucos, Common Sandpiper.—Carlisle District, arrived on Eden, Petteril, and Caldew, on April 13th.

Helodromas ochropus, Green Sandpiper.—Carlisle District, Sept. 5, one shot, immature; others seen, Rockliffe, Burgh, Allonby, August and September; one, adult, seen last week December (shot January, '85).

Totanus canescens, Greenshank. — Carlisle District, Aug. 24th, two, male and female; Aug. 28th, saw another at Port Carlisle.

Limosa ægocephala, Black-tailed Godwit.—Carlisle District, Sept. 6th, one, immature, shot, another seen; Oct. 28th, one shot (these are the first since 1876, when one was shot).

Numenius phæopus, Whimbrel.—Carlisle District, May 10th; numerous during August and September.

Numenius arquata, Curlew.—Bull Point L.H., Aug. 17th, about twenty flying S.W. at 10 a.m. Bardsey L.H., Aug. 27, fourteen during the morning. Dee L.V., Aug. 29th and 30th, a flock each morning at 9.30 a.m. Helwick L.V., Sept. 10th, several passed the lantern flying from E. to W. at 8.30 p.m. Longships L.H, Nov. 13th, one struck the lantern at 8.45 p.m., "a very rare

occurrence." There are other entries concerning this species, but referring obviously to local movements only.

STERNINÆ, Terns.—Bishop Rock L.H., October 5, several Sea-Swallows from sunrise to 5 p.m.; also large numbers of Gannets "after Pilchards."

Sterna fluviatilis, Common Tern.—Carlisle District, arrived at breeding haunts on the 4th of May.

Sterna cantiaca, Sandwich Tern.—Carlisle District, April 23rd, Mr. Reynolds noted its arrival on this day.

Hydrochelidon nigra, Black Tern.—Carlisle District, two, at the point of Rockliffe Marsh, which runs far out into the Solway, October 20th, 21st.

LARINÆ, Gulls.—Nash (E.) L.H., large flocks of Common Gulls passing inland along with Crows from 8 a.m. to 3 p.m. Bideford Bar L.H., Nov. 18th and 20th, flocks of Gulls all day.; Dec. 11th, about two hundred Gulls and forty Crows at 7.30 p.m. There are other references of an unimportant nature and needing no record.

Stercorarius pomatorhinus, Pomatorine Skua.—Carlisle District, Oct. 28th, one, in almost adult dress, shot at Bowness; on the 26th a brisk W. gale; on 27th, high W. wind, wilder p.m.; 28th, westerly gale, a.m.

Procellaria pelagica, Stormy Petrel.—South Bishop L.H., Oct. 14th, from 11 p.m. to daylight, about three hundred Larks, Blackbirds, Missel and Song Thrushes, Wheatears, Goldcrests, and eight Storm Petrels were killed or captured at the lantern. Dee L.V., Oct. 25th, one alive on deck at 6 a.m.

Procellaria leucorrhoa, Leach's Petrel.—Carlisle District, Oct. 28th, one "telegraphed," picked up and still living.

Puffinus ——— ?—Bishop Rock L.H., during August several Shearwaters struck the glass between the hour of lighting and 4 a.m., but none were killed.

Colymbus septentrionalis, Red-throated Diver. — Carlisle District, Nov. 1st, two seen; Nov. 7th, two, adults, shot at Bowness and Skinburness; others afterwards.

Podiceps cristatus, Great-crested Grebe.—Carlisle District, March 11th, one male, on Eden, adult; Oct., one near Penrith, immature.

Mergullus alle, Little Auk.—Carlisle District, one, adult, Brampton, about Nov. 20th-21st; severe gale from east, 18th and

19th; another, shortly after, near Cockermouth, was swimming on a small inland pool when shot; this also Mr. Macpherson examined, and believes it to be a bird of the year.

Fratercula arctica, Puffin.—Spring: Caly L.H., April 9th, one hundred or more at daybreak; "the first seen this season."

Alca torda, Razorbill.—Longships L.H., Sept. 30th, great numbers going S. in the morning; Nov. 24th, a flock at 2 p.m. going S.S.W.; 27th, flocks at mid-day, moving S.W.

WILLIAM EAGLE CLARKE.

IRISH COAST.

In the spring of 1884 schedules were forwarded to thirty-six light-stations. Twenty-seven replied by returning the schedules either partially, or wholly, filled with observations.

In the autumn a similar number of schedules were sent out, and twenty-six stations replied.

Several stations filled two, and some light-keepers, who took a special interest in Ornithology, returned as many as three and four schedules, both in spring and autumn. Observers placed on isolated rock stations at a distance from the coast, or on light-vessels, have, as a rule, taken the most interest in the subject of migration. This is fortunate, as such stations are least influenced by the local movements of birds on the mainland.

Observations have now been taken on the Irish coast for three years and a half, during which period a large body of statistics has been collected. Their value cannot be questioned; but as the records accumulate the importance of correctly identifying every species becomes more apparent. To attain this object the light-keepers were asked to forward the leg and wing of all birds about which they felt any doubt. Several wings, &c., have been sent, and a list of them is subsequently given. In future, it is hoped that the light-keepers will not think it too much trouble to preserve and label the wings and legs of *at least one specimen of each kind of bird which is killed at their station.* This is very desirable, since it cannot be expected that with so short experience as they have had the light-keepers would be able to identify all species beyond a doubt.

With the view of still further attaining accuracy of identification, a request was made to the Commissioners of Irish Lights to supply to the Lighthouses some copies of the eight-volume edition of Morris's 'British Birds.' The Commissioners very kindly consented to purchase and distribute six copies, and we are greatly indebted to them for thus placing in the hands of the light-keepers this useful book, which will at once assist their observations and relieve the monotony of some lonely stations. The stations which have received copies of Morris are the

Tuskar, Tearaght, Rathlin, Innishtrahull, Rockabill, and Coningbeg Light-ship.

Since the volumes have been distributed in the summer of 1884, some records have appeared in the schedules which are highly improbable. They appear due to the fact that the bird seen had some slight resemblance to a rare species figured in Morris. On the other hand, the coloured figures have been the means of correcting many errors.

The schedules for 1884 exhibit or emphasize the following points:—

In 1884 the number of birds has been equal to, and in a few instances above, the average.

The bulk of the migrants arrive on the southern half of the east coast of Ireland, and on the easternmost of our southern counties,—in other words, along the shore extending from Dublin to Waterford, and having its limits at Rockabill Lighthouse and Dungarvan Lighthouse.

A *marked* migratory movement might be expected in our north-eastern counties between Scotland and Ireland, where the Channel is narrowest; but we have no evidence that such is the case.

The usual course taken by birds seems to be either N.W. or S.E. The number of birds which only occur singly and do not seem to migrate in flocks is large. In such instances it is difficult to trace the line of migration.

The occurrences now noted of the Greenland Falcon, properly belong to the same flight that has already been noticed in last year's Report.

As might be expected, the Snow Bunting is of more frequent occurrence on our western and northern coasts. A few remained as late as the first week in May, and it was again seen early in September, dates which have not hitherto been recorded in Ireland. Geese were also more numerous on the northern and western coasts than elsewhere.

A remarkable migration of the Rook was observed at the Tearaght and Skelligs, both stations being several miles off the coast of Kerry. It lasted for three weeks, from Nov. 2nd to 20th, the direction of flight being from west to east. The light-keepers were puzzled to know where the birds came from, the nearest land to the west being America. [See general remarks of light-keepers, and also under Rook].

The greatest immigration of Thrushes occurred between the 14th and 20th of October; Starlings, 18th to 20th October, and the first fortnight in November; Blackbirds, October 24th; Swallows, about the 12th May. Whimbrel were more plentiful than usual at our southern stations when going north in the spring.

The migration of the Starling is perhaps more evident than that of any other bird; they *strike* in the greatest numbers. Woodcocks, on the other hand, usually strike singly; it is a rare occurrence to have more than one killed on the same night. Very few birds of any kind strike the lights on the west coast of Ireland.

Sea-birds scarcely ever strike the lanterns. The instances are so few of birds striking on clear nights, that they do not number half a dozen per annum.

Some evidence has been given that the Wren is resident on the Tearaght, Skelligs, and Eagle Islands, all three very bare and isolated rocks on the west coast; but the specimens received differ in no respect from the Common Wren of the mainland. The Hedgesparrow was also received from the Tearaght, and several are stated to have remained there during last winter.

An interesting observation was made by Mr. McCarron, of the Tearaght, who watched an old Razorbill dive beneath its young one and rise exactly underneath it. The young one was thus raised on the back of the old bird, which carried it in this position over the waves in a rough sea. This occurrence was witnessed several times.

The transfer of the light-keepers from one station to another is unavoidable, and changes are made by the Commissioners every year. There are instances in which one might imagine that the birds had followed the migration of a particular light-keeper, if he has been a more careful observer than his predecessor at that station.

We trust the efforts made to enable the birds to be identified will succeed in time; the various kinds of Gulls are much confused, and the Puffin, Razorbill, and Guillemot are constantly doing duty for each other. Redwings, Thrushes, and Fieldfares are not always distinguished; while Larks, Linnets, and Finches are perhaps too closely associated in the minds of some light-keepers. By the production of specimens in future, we trust that some of these difficulties will be removed.

The insertion in the schedules of the column for the *direction* of flight has, we think, been of advantage.

Single Hawks appear occasionally with rushes of small birds, perhaps to capture the disabled ones.

There is one record of Bats being seen at Rockabill, around the light, the first instance of such an occurrence on the Irish coast.

As our records increase and statistics accumulate, it becomes the more necessary that the investigation should be continued, so that results may be confirmed beyond question.

To all the light-keepers who have, again, so kindly given their time and attention to the subject of migration, we are much indebted. We feel sure that many are anxious to continue their observations, and that none who are able will refuse to further our enquiry.

To the Commissioners of Irish Lights, who have supplied six copies of Morris's 'British Birds' to the light-keepers, and subscribed for twenty-four copies of the Report, we are under the deepest obligations, and it is very encouraging to meet with such valuable assistance from a Public Board whose co-operation is so essential to the success of our undertaking.

To Mr. Armstrong, the courteous Secretary to the Commissioners, and to Captain Boxer, R.N., and to Captain Gallway, R.N., our thanks are especially due.

ALEXANDER G. MORE.
RICHARD M. BARRINGTON.

19*th May*, 1885.

List of Light-stations.

	Spring.	Autumn	Miles from shore.	Names of Observers
1. Fastnet, Co. Cork	x	x	8	James Walsh.
2. Galley Head, Cork	o	o	–	*No replies.*
3. Old Head, Kinsale, Cork	x	x	–	Martin Kennedy.
4. Mine Head, Waterford	–	–	–	No schedule sent.
5. Dungarvan, Waterford	x	x	–	Wm. Higginbotham.
5.* Coningbeg Lt.-ship, Wexford	x	x	10	Patrick Cullen and William Clydesdale.
6. Barrels Rock Lt.-ship, do.	x	x	4	Michael Doyle.
7. Tuskar Rock, do.	x	x	7	Richard Hamilton and Patrick D'Arcy.
8. Arklow Sth. Lt.-ship, Wicklow	x	x	7	Patrick Clancy.
8.* Arklow North Lt.-ship, do.	x	x	8	William Daly.
10. Kish Bank Lt.-ship, Dublin	x	o	7	Michael Cunniam.
11. Howth Baily, Dublin	o	x	–	William Dunne.
12. Rockabill, Dublin	x	x	5	Joseph Hammond.
13. Copeland Island, Down	x	o	3	John Walsh.
14. Maidens, Antrim	x	x	5	Michael Barry.
15. Rathlin, Antrim	x	x	6	John A. Murray.
16. Innishtrahull, Donegal	x	o	6	W. H. James.
17. Dunree Head, Donegal	x	x	–	John Stapleton.
18. Lough Swilly, Donegal	–	–	–	No schedule sent.
19. Tory Island, Donegal	x	o	9	Thomas Sweeny.
20. Arranmore, Donegal	x	x	5	Henry Williams.
21. Rathlin O'Birne, Donegal	x	o	2	John Scallan.
22. Killybegs, Donegal	o	x	–	Joseph Hill.
23. Oyster Island, N. Sligo	x	o	1	Joseph Hill.
24. Broadhaven, Mayo	x	x	–	Patrick Keenan.
25. Eagle Island, E., Mayo	o	x	2	Daniel Hawkins.
26. Eagle Island, W., Mayo	o	o	2	*No replies.*
27. Blackrock, Mayo	x	x	9	John Redmond, J. Young and R. Lyons.
28. Blacksod Point, Mayo	o	x	–	Robt. W. Redmond.
29. Clare Island, Mayo	x	x	4	G. H. Brownell.
30. Slyne Head, N., Galway	o	x	3	Robert Tyrrell.
31. Slyne Head, S., Galway	–	–	3	No schedule sent.
32. Arran Island, N., Galway	o	x	9	Thomas Fortune.
33. Straw Island, Galway	x	x	9	Charles Boyle.
34. Arran Island, S., Galway	o	o	6	*No replies.*
36. Samphire Island, Kerry	–	–	½	No schedule sent.
37. Tearaght, Kerry	x	x	9	Edward McCarron.
38. Valentia, Kerry	x	x	–	Joseph Williams.
39. Skelligs, Kerry	x	x	9	Thomas Kerley.
40. Dursey Island, Cork	x	o	½	James Keenan.

o = No reply. x = Schedule returned partly or wholly filled.

Spring, 36 schedules sent out; replies received, 27. Autumn, 36 schedules sent out; replies received, 26.

List of Birds noticed.

Number of Lighthouses at which the following Birds are reported to have struck the Lantern-glass at Night.

	Lighthouses.
"Small Grey Hawk"	1
Thrush	10
Redwing	1
Fieldfare	3
Blackbird	9
Robin	4
"Stonechat" (Wheatear)	4
Willow Wren / Chiffchaff	3
Golden-crested Wren	7
Wren	7
"Tits"	1
Titlark	4
Lark	9
Chaffinch	2
Greenfinch	2
Linnet	2
Starling	11
Swallow	4
Green Plover	1
Sea-pie	1
Curlew and Whimbrel	3
Woodcock	6
Snipe	3
Wild Duck	1
Stormy Petrel	5
Manx Shearwater	3

The foregoing table does not show the relative *numbers* of birds striking; it only exhibits the *number of stations* at which each species is reported to have struck. For example, the Blackbird is reported to have struck the glass at nine stations, but hundreds did so, and were killed or disabled; the Woodcock struck at six stations, but only seven birds actually struck, all of which were killed outright.

Sea-birds rarely strike, and land-birds seem to strike lighthouses on islands more than on headlands.

The light-keepers having been requested to forward a leg and wing of every bird which they were not able to identify with certainty, the following were received:

Leg and wing of Ring Ouzel from the Skelligs ...	shot	Sept. 17th.
Skin of the Hedgesparrow from Tearaght	,,	Oct. 3rd.
Wing of the Black Redstart from Skelligs	,,	Nov. 13th.
Two Snow Buntings in summer plumage from Arranmore	,,	1st week in May.
Snow Bunting in winter plumage from Skelligs ...	,,	Sept. 18th.
Wing of the Greenfinch from Skelligs	,,	Nov.
Leg and wing of a hen Chaffinch from Tearaght ...	,,	Oct. 26th.
*Leg of a Chough from Tearaght.		
*Leg and wing of a Woodcock from Tearaght.		
Leg and wing of Corn Crake from Rockabill. Struck lantern.		Sent May 10th.
Skin of a Water Rail from St. John Point. Struck lantern.		
Skin of a young Razorbill from Tearaght	shot	Jan. 13th, 1885.
*Wings of the Stormy Petrel from Tearaght.		
A Wren in the flesh from Eagle Island.		
Do. do. Skelligs	,,	Sept. 4th.
Snow Bunting from Eagle Island	,,	April 16th.

General Remarks of Light-Keepers.

Fastnet.—"Spring: The Gannet does not breed on the rock, and never did; in fact no bird could build, as the rock is too small. There has been a great scarcity of birds this spring. No birds of any description seen in June or to 16th July."—James Walsh.

Old Head, Kinsale.—"Spring: I understand from those fishing off this head that sea-birds arrive on the fishing grounds from daylight to 10 a.m., always from the eastward. Sky Larks, Titlarks, two Falcon Hawks, thirty to forty Rock Pigeons, Grey

* Obtained where the Peregrine feeds on rock.

Crows, Kittiwake Gulls, Green and Black Cormorants, and Sea-pies, are resident here. The Puffin arrives about 15th April, and leaves 15th Aug. Snipe are always to be found near a lake three miles away, and Curlew, Wild Duck, Coot, and Waterhen are there all the year. Autumn: Saw one Rook with white wings in a flock. Birds very scarce. Not one Golden Plover seen. No bird struck the lantern."—Martin Kennedy.

Mine Head.—No reply.

Coningbeg Light-ship.—"Spring: Great flocks of Puffins pass almost daily in the summer months from the Saltee Islands, where they breed, going off during the day and returning in the early morning [? R. M. B.] about sunrise. Several species of Gull fly off during the day and return in the evening to the rocks. No Gannets frequent the Saltees, but Cormorants in great numbers."—Patrick Cullen.

Tuskar Rock.—"Spring: No birds seen in January but sea-fowl. A remarkable absence of sea-birds this year. March 25th was the last day I saw Divers; they generally return in Oct. The young or Black Gannet have come since the 1st June in small numbers, accompanied by some white ones. Autumn: I have received the eight volumes of Morris' 'British Birds,' and am sorry to say that all birds heretofore entered as 'Titmice' were probably Willow or other warblers, and 'Titlarks' were Rock Pipits. Most of the small land-birds rest on the rock for about five minutes before flying to shore (seven miles distant). I enter no sea-birds, as they mostly come and go with fish."—Richard Hamilton and Patrick D'Arcy.

Howth Baily.—"Spring: No birds observed migrating. Gulls and Puffins in vicinity nearly always."—William Dunne.

Rockabill.—"July 14th. Bats about light all night. Wind light, S.W."—Joseph Hammond.

[This is the first entry of Bats since the observation commenced on Irish coast in 1881. Rockabill is five miles from shore on the Dublin coast.—R. M. B.]

South Maidens.—"From 1st to 25th March no birds seen except Seagulls. It is remarkable how few of the birds seen here strike the lantern glass. From the 30th March to the 23rd April no birds seen here but the Solan Goose and Seagulls, the former coming from the direction of Ailsa Craig. During December there were scarcely any land-birds. The birds commonly found

dead after striking the lantern are Blackbirds, Curlew Larks, and Thrushes."—Michael Barry.

[There is no entry of either a Blackbird or Curlew having been killed at South Maidens in 1884.—R. M. B.]

Rathlin Island.—"Spring: Birds were not at all numerous this season."—John A. Murray.

Innishtrahull.—"Spring: The following birds breed on this island:—Titlarks, Sandlarks, Stonechickers (Wheatears), Grey Crows, and Pigeons. On the out rocks, Seapies and Gulls; and Cormorants on a rock six miles away."—W. H. James.

Dunree Head.—"Spring: No birds struck the light for the past six years. I have never been at a station so scarce of birds of every description."—John Stapleton.

Tory Island.—"Spring: Sea-birds first visit this island about 15th April for breeding, *i.e.*, Guillemots, Gulls, Cormorant, Puffin, Razorbill, and Green Cormorant. Birds of all kinds scarce this year. No birds struck lantern."—T. H. Sweeny and R. C. Duffy.

Killybegs.—"A very poor station for birds."—Joseph Hill.

Eagle Island, East.—"The grass on this island is short and stunted, and not sufficiently long to afford cover or shelter for birds. I have not seen or heard any birds strike the lantern. No night migration was observable on this island. There is not a bush or hedgerow within forty miles."—Daniel Hawkins.

Blacksod.—"Very few birds to be seen here. No birds strike the lantern glass."—Robert W. Redmond.

Clare Island.—"The birds came to breed in the cliffs a couple of weeks earlier than usual. From April 20th to end of month, large numbers of sea-birds continually arrived to breed. The sea-birds that hatched this summer were very numerous. They will all be taking their departure by the end of August. During October few birds inhabit the island, except Grouse, Curlew, Wild Pigeon, Snipe, and a few Woodcocks and Cormorants; and round the rocks a few Great Northern Divers. The Eagles did great destruction, killing geese and hens. There are a great number of Seals in the caves. A boat and crew killed six large ones in one day in the caves, armed with nothing but heavy sticks. There are a number of Otters about the cliffs. In stormy weather they come near the lighthouse. One night in

Dec. I heard one barking, and saw him go down to the sea afterwards."—George H. Brownell.

Slyne Head, North.—"Very few land birds seen this winter. The sea-fowl are about the island at all times. The number of birds striking lantern is less than preceding year."—Robert Tyrrell.

Arran Island, North.—"During August a great number of Sandlarks, Sea-pie, Curlew, and Titlarks, remained on island. Puffins, Gannets, Gulls, and Cormorants flying past occasionally. Redshanks, Sea-pie, Sandlarks, and Curlew during fine weather remain on island; when rough they go to the big island of Arran."—Thomas Fortune.

Straw Island.—"Spring: The following species were never so scarce:—Gulls, Gannets, Puffins, and Sea-pies. I have never seen so few birds early in spring, but as the spring advanced the numbers of Linnets, Fieldlarks, Stonechats, and Yellowhammers increased so much that I have not seen such numbers for many years past. The different species of Gull and Cormorant remain throughout the year; they breed on the cliffs on the large island of Arran. No birds ever strike this lantern, the light being red, and not showing in the direction of the general flight of birds. Autumn: I have noticed fewer birds than usual. The Cormorant, White-backed Gull, and Royal Gull are the only species remaining during the winter. A number of small birds, such as Thrushes, Blackbirds, Starling, Linnets, &c., frequently fly from the mainland, especially in severe weather. All through the autumn to the present (Dec. 30th) I have remarked flights of wild Duck and Barnacle going N.E."—Charles Boyle.

Tearaght.—"I heard the Manx Shearwater for the first time this year on the night of April 10th, but as usual the note ceased after the moon rose. I have not seen any of the 'Mackerel Cock' since March 29th. [A specimen of 'Mackerel Cock' sent Jan., 1885, was a young Razorbill in winter plumage. —R. M. B.] Birds remaining on the island on July 31st:—Sea-parrots, Razorbills, Guillemots (only a few), Kittiwakes, Royal Gulls, and the large White Gulls, Stormy Petrels, Sea-pies, Choughs, and Hooded Crows. Birds remaining Jan. 15th, 1885:—Razorbills (young), Kittiwakes (old), *Royal Gulls, Herring Gulls* (young and old), *Chough, Hooded Crow, Wrens,* Titlarks, *Rock Pipit, Peregrine Falcon, Sparrow-Hawk,* Mountain Linnet (Twite), Gannets,

Chaffinch, Greenfinch, Rock Pigeon, and Cormorants. Those in italics are always here. The Herring Gull was called previously 'large white Gull.' I wish to draw special attention to the great number of 'Crows' which passed over this island from the 5th to the 25th Nov. They were flying at a height of seven or eight hundred feet. When passing this island their flight would become irregular. Some rested for a little while, and a few were to be seen some days afterwards having a tired appearance." [I expressed a doubt about the identification of the species to Mr. McCarron.—R. M. B.] He then wrote :—"I was standing within ten paces of one several minutes, and it had not the excrescence round the base of bill, and I think I am correct in saying it was not the Rook." [Neither Mr. More nor myself have ever seen a freshly killed Irish specimen of the Carrion Crow. In the 3rd 'Report on Migration,' p. 86, large flights of Rooks coming from the sea in a S.W. direction are mentioned as occurring at Blackrock Lighthouse, nine miles off Mayo. —R. M. B.]

Eagle.

Clare Island.—April 4th, a young speckled Eagle perched at noon on a pinnacle of cliff about two hundred yards from lighthouse, then went to its eyrie in the highest cliffs. The two Eagles are here still in their usual abode in the highest cliffs. Nov. 20th, large Eagle close to station.

Tearaght.—Jan. 16th, 1885, one passed from E. in front of dwellings, and round west of island, when it rose to a great height and moved steadily N.E. towards mainland, accompanied for some distance by three Choughs and a Peregrine Falcon, which appeared mere specks beside it. Frost and snow on Kerry mountains.

Greenland Falcon.

Blackrock, Mayo.—March 10th, one Greenland Falcon about all day; wind S.W., strong, snow showers. The Falcon was shot, and was much smaller than the other one, only in better condition. [The "other one" probably refers to the specimen entered in the schedule for 1883; see 5th Report, p. 90. —R. M. B.]

Tearaght.—March 23rd, one Greenland Falcon shot 10 a.m.; wind S., light, clear; length from tips of wings, 48½ inches; from beak to tail, 22 inches; weight, 3 lbs. 6. oz. March 24th, one seen to-day devouring a sea-parrot. April 2nd, one shot, smaller and whiter than the bird killed on March 23rd. April 7th, two to-day, each time pursued by Crows. April 21st, a very large one pounced upon a sea-parrot and carried it off to an adjoining island. [The specimens killed on March 23rd and April 2nd were recorded in Report for 1883.—R. M. B.]

HAWKS.

Fastnet.—Sept. 15th, one seen. Oct. 15th, one Black Hawk 10 a.m., going E.; wind N.W., light, misty. Nov. 14th, one Hawk seen.

Old Head, Kinsale.—May 7th, two Falcons and one "Goshawk" all day; wind N.E., strong. The Falcons never leave here. The "Goshawk" always goes inland. June 8th, two Falcon Hawks, resident; 24th, one "Goshawk" shot. Nov. 4th, two Falcons going N.W.; stormy from S.W.

Dungarvan.—April 11th, one Falcon Hawk. May 9th, one.

Coningbeg Light-ship.—September 22nd, one Sparrow Hawk. Oct. 10th, one, with a Stormy Petrel in its talons. Nov. 21st, one.

Barrels Rock Lightship.—Oct. 24th, one Hawk. Nov. 18th, one.

Tuskar Rock.—May 11th, one Hawk on rock, fog; 27th, one on rock. Aug. 23rd, one 8 a.m. Oct. 5th, one 9 a.m.

Arklow North Light-ship.—Sept. 8th, two Sparrow Hawks about ship 6.30 a.m.; wind N.W., light, haze; 14th, a large Hawk at 8 a.m. Oct. 2nd, one Hawk. Dec. 22nd, two Hawks about ship.

Rockabill.—July 1st, one Hawk caught alive. Sept. 1st, one Hawk seen. Oct. 6th, do.; 23rd, one Hawk, with Golden Wrens, Thrushes, Blackbirds, Stares, and Larks; "several killed but not the Hawk." Nov. 9th, 10th, and 11th, Hawk, with Blackbirds, Thrushes, Stares, and Fieldfares; several of latter killed striking; 16th and 17th, one Hawk.

South Maidens.—Oct. 24th, two Hawks over rock.

Rathlin Island.—Oct. 24th, one Sparrow Hawk on island; wind N., light.

Innishtrahull.—April 1st, one small bluish Hawk; wind strong S. May 7th, one small bluish Hawk and two brown Hawks; 9th, three Sparrow Hawks (young); 25th, a Sparrow Hawk. July 18th, four Sparrow Hawks, remained about a week.

Tory Island.—A pair of "Game Hawks" breed in the cliffs.

Arranmore.—March 22nd, two Peregrines and two Sparrow Hawks arrived to breed; wind N., fresh.

Rathlin O'Birne.—March 9th, two Hawks; I have seen them kill small birds.

Eagle Island, East.—Oct. 13th, one Sparrow Hawk, at noon, hovering.

Blackrock, Mayo.—July 16th, one Falcon at 3 p.m. going E.; wind strong S.W.; seen carrying off a Puffin. Sept. 3rd, two Falcons at 7 a.m. going S.W.; wind N.W., fresh; 9th, one seen alighting on rock to eat a bird it caught; 29th, one Falcon. Oct. 14th, two Sparrow Hawks going N.E.; 29th, two Falcons hovering high over rock. Dec. 3rd, two.

Clare Island.—June 1st, six Kestrel Hawks building in the cliffs. The "large Kestrel Hawk" remained until end of Dec.

Arran Island, North.—Oct. 1st, one "Brown Hawk" all day.

Straw Island.—March 30th, one Sparrow Hawk going N. Nov. 23rd, two going E.

Tearaght. — Feb. 5th, two "Sparrow Hawks" and two Peregrine Falcons breed here; may be seen from time to time about the island. Aug. 13th and 14th, two "Brown Hawks" on island. Sept. 5th, "small Gray Hawk" rested on island; Sept. 11th to 16th, one "Brown Hawk." Oct. 8th, one struck glass on S. side at 6 p.m.; strong gale from N.W., with showers.

Valencia.—April 7th, two large Hawks; 20th, four Sparrow Hawks; 26th, six large Hawks; 30th, five Sparrow Hawks. June 4th and 6th, two and three. Sept. 5th, one. Oct. 5th, one.

Owl.

Old Head, Kinsale.—Nov. 10th, one "Brown Owl" 10 a.m., going W.; wind S.S.E.; shot.

Dungarvan.—Sept. 3rd, a "large Owl" started from gorse.

Tuskar Rock.—Nov. 12th, a "short-eared Owl" came from E. and alighted on rock at 2 p.m.; wind strong S.E.

Broadhaven.—Nov. 19th, one "Brown Owl" going E. 9 a.m.; wind fresh N.W. Dec. 19th, one "Screech Owl" rose out of a swamp; an unusual visitor.

Thrushes.

Fastnet.—April 3rd, three "Mountain Thrushes" going N.E. at 5 a.m., wind E.S.E., clear; rested on rock several hours. Oct. 14th, five at midnight; wind light N.W., fog. Nov. 14th, seven "Mountain Thrushes" all night around lantern; wind N.E., misty.

Old Head, Kinsale.—Nov. 12th, a large number of Thrushes about station all day; wind N., fresh.

Tuskar Rock.—March 1st, striking in small numbers 11.30 p.m.; wind moderate S.E., misty, overcast; 2nd, five killed striking; fog; 4th, thirty killed striking in night; wind high S.E., rainy, overcast, and passing all day to W. Oct. 15th, one on rock after night; 16th, Thrushes passing N.W. 9 p.m. to 10.30 p.m.; wind light W., misty; one killed striking; 23rd, flocks passing at night to 3 a.m., one killed striking; overcast; 24th, flocks passing at night to 3 a.m., five killed striking; cloudy. Nov. 2nd, one all day on rock; wind N.W., fresh. Dec. 21st, one killed striking at 1 a.m.; clear, wind N., strong.

Arklow South Light-ship.—Sept. 30th, flock about ship, 6 a.m.; clear, wind light S.W. Oct. 16th, one struck lantern, 9.30 p.m., killed; overcast; 20th, four killed striking from 8 p.m. to midnight; wind light S.W., gloomy, with rain; 24th, four killed striking up to midnight; wind light N.E., gloomy; 25th, flock going N.W. Nov. 17th and 18th, Thrushes about lantern all night, cloudy, none killed; wind fresh N.E.

Arklow North Light-ship.—March 4th, some Thrushes killed striking; wind N.E., overcast; 19th, some about lantern all night; wind light S.W., clear. Oct. 21st, flocks going N.W.; wind light S.W.; some killed striking; hazy. Dec. 27th, eight killed striking from midnight to 5 a.m.; wind light S., hazy, with rain.

Howth Baily.—Sept. 8th, three against glass at night; wind light S.W., overcast, gloomy; Sept. 9th to 13th, Thrushes about station fly against glass all night; two killed.

Rockabill.—March 1st, Thrushes all night about the light; wind S.E., misty; two dozen killed striking. Oct. 5th, Thrushes

all night; misty, wind N.E., light; 18th, 19th, and 20th, Thrushes all day; wind light N.W.; 21st, Thrushes all day; 23rd, all day and night, some killed; wind S.E., gloomy; 24th, Thrushes all night, some killed; wind S.E., misty. Nov. 9th, 10th, and 11th, Thrushes all night, numbers killed striking; wind S.E., misty; 14th and 15th, Thrushes around light, some killed; wind E. to N.E., light, gloomy. Dec. 1st, Thrushes.

South Maidens.—February 25th, five "Scotch Thrushes" (Redwings?) killed striking, and a few disabled at 4 p.m. [? a.m.—R. M. B.] Wind N., light, gloomy. Oct. 20th, one killed striking 11 p.m.; 23rd, nine Thrushes, killed striking, fell into the sea.

Rathlin Island.—Oct. 8th, one struck at midnight, caught; wind light S.E.; 15th, 11 p.m., one caught; wind N.W., light, fog.

Arranmore.—Nov. 30th, four Thrushes killed striking 9 p.m.; wind W., strong, fog. Dec. 28th, seven seen.

Rathlin O'Birne.—March 12th, four going N.; wind S.

Killybegs.—Oct. 13th, one killed striking 1 a.m.; wind N.W., gloomy, misty.

Eagle Island, East.—Dec. 15th, two seen.

Slyne Head, North.—Nov. (4th?), five killed striking lantern.

Tearaght.—March 5th, one; not observed afterwards.

Valentia.—April 9th, two; 12th, five. May 18th, eight. June 15th, one.

Skelligs.—Oct. 24th, two Thrushes on rock. Nov. 4th, Thrushes observed on rock this day. Dec. 22nd, a few on rock during month.

Redwing.

Tuskar Rock.—Oct. 12th, one killed striking 11.30 p.m.; wind N., strong, squally; the first this season. Oct. 21st, 22nd, 23rd, and 24th, flocks passing N.W. at night to 3.30 a.m.; wind S. to S.W. (N. on 24th), light, overcast, and misty; four killed striking. Nov. 18th, one struck; 19th, do., neither killed; 30th, three killed striking 3 to 5 a.m.; misty.

Tearaght.—Nov. 19th, several Redwings, and one or two might be observed from time to time afterwards.

Skelligs.—Nov. 4th, Redwing seen on rock.

Fieldfare.

Tuskar Rock.—Nov. 18th, one killed striking; wind N.E., cloudy. Dec. 25th, one killed striking; wind N.E., fresh, clear.

Howth Baily.—Sept. 9th to 13th, some "Fieldfares" about lantern at night.

Rockabill.—Nov. 9th, 10th, and 11th, Fieldfares, with Blackbirds, Stares, and Thrushes all night; some killed; wind S.E., misty.

Arranmore.—Nov. 12th, six arrived on island; wind S.W., strong.

Tearaght.—Nov. 14th, one struck lantern 3 a.m.; calm, gloomy. Two or three observed on several occasions afterwards.

Blackbird.

Fastnet.—Sept. 19th, one all day; foggy; 20th, one seen.

Dungarvan.—Oct. 24th, two females struck; not killed; wind N., light, cloudy.

Coningbeg Light-ship.—Oct. 22nd, twenty about light 9 to 12 p.m.: wind light S., clear. Nov. 18th, one going N.E.

Barrels Rock Light-ship.—Oct. 23rd, one killed against rigging 4 a.m.; wind S.W., moderate, gloomy.

Tuskar Rock.—March 4th, fifty killed striking in night; wind high S.E., rainy, overcast; flocks in day passing to W. Sept. 21st, one struck lantern; not killed; wind light S.E., foggy; the first this autumn. Oct. 7th, one female on rock; 10th, one; 15th, one; 21st, flocks passing in night; some killed striking; misty; 22nd, flocks at night; fifteen killed striking (eleven were females); misty, wind light S.W.; 23rd, flocks passing at night; nineteen killed striking, mostly females; overcast, wind the same; 24th, still passing at night; ten killed; wind N.W. to N.E., light, cloudy. Redwings and Thrushes passed with the Blackbirds the last four nights, and all are entered as passing before 3.30 a.m. Nov. 11th, two killed striking; overcast; 17th, passing N.E. in threes and fours during day; 30th, five killed (three males, two females); misty. Dec. 2nd, one male killed striking; fog. Dec. 21st, two killed; sky clear.

Arklow South Light-ship.—Oct. 8th, Blackbirds about lantern 1 to 4 a.m.; hazy, wind light N.W.; 25th, large flock flying N.W.; wind light N.W. Nov. 17th and 18th, Blackbirds about lantern all night; cloudy, wind light N.E.

Arklow North Light-ship.—March 4th, Blackbirds killed striking; wind N.E., light, overcast. June 10th, some Blackbirds found dead. Oct. 21st, flocks passing N.W.; some killed striking; wind light S.W., hazy. Dec. 27th, five killed striking midnight to 5 a.m.; wind light S., hazy, with rain.

Howth Baily.—Sept. 8th, seven against lantern in night; one killed; wind light S.W., overcast, gloomy; 9th to 13th, Blackbirds about station fly against glass in night; one killed.

Rockabill.—Oct. 5th, Blackbirds all night; misty, wind light N.E.; 18th, 19th, and 20th, all day; wind light N.W.; 21st, all day and night; wind S.E., gloomy; some killed; 24th, all night; some killed; misty. Nov. 9th, 10th, and 11th, Blackbirds all night, with Thrushes, Stares, and Fieldfares; numbers killed; misty, wind S.E.; 14th, several killed; wind E., gloomy; 15th, do.; wind N.E., gloomy. Dec. 16th and 17th, Blackbirds and Stares all day.

Copeland Island.—March 20th, three killed striking; wind W., strong, squally.

South Maidens.—Oct. 8th, one on rock all day. Nov. 29th, one Blackbird at 4 a.m.; wind S.E., very strong.

Rathlin Island.—Dec. 27th, six remaining.

Arranmore.—Jan. 5th, 1885, eight Blackbirds; wind light S.E.

Rathlin O'Birne.—June 4th, three on island. Seen in summer. [Possibly Ring Ouzels.—R. M. B.]

Eagle Island, East.—Nov. 10th, one seen.

Blackrock, Mayo.—Jan. 5th, 1885, one struck lantern at 9 p.m. and was killed; wind fresh W., cloudy.

Slyne Head, North.—Dec. 11th, one seen on island at 11 a.m.

Straw Island.—Oct. 17th, thirty going N.E.; calm

Tearaght.—Feb. 22nd, one. March 4th, one. Nov. 10th, one, female, and several times afterwards.

Valencia.—Sept. 7th, Nov. 16th, Dec. 15th and 25th, one to four.

Skelligs.—Oct. 24th, two Blackbirds on rock. Dec., a few on rock during month.

Ring Ouzel.

Barrels Rock Light-ship.—March 29th, one "Blackbird" resting on ship was caught; it had a white stripe of feathers across its breast.

Tuskar Rock.—April 18th, one "white-breasted Blackbird" caught at lantern 10 p.m.; wind light N.E.

Skelligs.—April 12th, "six birds, not known; much the colour of a hen Blackbird, only with a white spot on the throat; at least half the birds were so marked, the others being a lighter shade of brown instead of white on the throat." [These last were probably females.—R. M. B.] Sept. 17th, one flying about rock. [Leg and wing of this bird received.—R. M. B.]

Hedge Sparrow.

Tearaght.—Oct. 3rd, two (Pipits?) "Several on island all the winter. It goes alone, and pops about under rocks and stones, and has a single little cheep." [The skin was forwarded, and belongs to the Hedge Sparrow. Can it be resident on this bare and isolated rock?—R. M. B.]

Robin.

Tuskar Rock.—Aug. 27th, one killed at lantern; wind light N.W., overcast.

Howth Baily.—Sept. 8th, four Robins at night against lantern; two killed; wind light S.W., overcast, gloomy; 9th to 13th, some Robins about lantern at night.

South Maidens.—Oct. 4th, two struck 10 p.m.; hazy, calm.

Rathlin Island.—Aug. 21st, one Robin killed striking. Sept. 10th, one Redbreast all day; remains. Nov. 23rd, two; remain.

Rathlin O'Birne.—July 6th, two Robins on island. These birds are scarce here.

Valencia.—Oct. 16th, Nov. 17th, and Dec. 6th, one seen.

Redstart (Black).

Straw Island.—Oct. 22nd, two at noon going S.E.

Tearaght.—Nov. 10th, one Black Redstart 8 a.m.; wind E., light; 12th, two, but none afterwards.

Skelligs.—Nov. 13th, two birds about the size of a Robin and similar movements; rusty red on back at tail, and tail of a reddish colour. [Wing of Black Redstart received.—R. M. B.]

"Stonechat" (Wheatear).

Fastnet.—Sept. 15th, two disabled striking at midnight; rainy

and thick. Oct. 3rd, about twenty 11 a.m. going N.E.; wind N.W., light.

Old Head, Kinsale.—April 27th, six Wheatears 9 a.m.; wind N., light; remained to breed. Nov. 17th, Stonechats about station all day.

Dungarvan.—March 20th, one Wheatear; wind N., strong. April 3rd, a number going N.W.; wind S.E., fresh. June 17th, a few on walls of station.

Tuskar Rock.—March 1st, one at lantern; wind S., fresh, misty. April 25th, one at lantern; clear. May 26th, Stonechatter alighted on rock. July 28th, Aug. 3rd and 17th, one to three Wheatears; 27th, one killed striking; overcast. One or two on rock occasionally to Sept. 25th.

Arklow North Light-ship.—April 24th, some Stonechatters at 6.30 a.m. about ship; wind S.E., light.

South Maidens.—Aug. 21st, two Stonechatters killed against lantern.

Rathlin Island.—April 10th, six seen; wind S.E.; 13th, ten; wind N. Aug. 23rd, three killed striking. Sept. 11th, two all day; 18th, one killed striking 11 p.m.; wind light S.E.

Innishtrahull.—March 21st, "Stonechickers" (Wheatear) 10 a.m.; wind high N.W.; first seen this season; 24th and 25th, five to eight about lantern all night; wind S.W. to S.E., gloomy and cloudy. April 12th to 15th, "Stonechickers;" these are about all day, and around lantern at night; wind S.E. to N., fresh. A number about during July.

Arranmore.—March 18th, fourteen arrived to breed; wind S., fresh.

Rathlin O'Birne.—April 9th, six Stonechats going S.; wind S.E. They breed on island.

Oyster Island, North.—March 25th, two alighted on wall; wind light S.

Eagle Island, East.—Sept. 17th, Stonechats at 8 a.m going S., rested: wind S.W., light; 27th, about twenty rested and left at dusk, going S.W.; wind, strong W. to S.W. Oct. 7th, Stonechats going W., rested; left at noon; misty, wind strong N.W. Nov. 3rd, about seventy going S.W.; wind light S. (See this station under head of "Linnet.")

Clare Island.—March 31st, observed several Stonechats coming to breed; wind S.E., light.

Arran Island, North.—Sept. 28th, two; wind N.W., light, foggy.

Tearaght.—March 25th, two arrived, and others came afterwards. Sept. 19th, two seen to-day. None after this.

Skelligs.—March 8th, Stonechatters first seen on rock. Sept. 1st, twelve, and some seen up to 21st Sept.; none since.

"Blackcap." (Probably the Stonechat).

Old Head, Kinsale.—May 12th, two Blackcaps. Nov. 17th, Blackcaps about station.

Oyster Island, North.—May 14th, one Blackcap on island; wind N.W., strong.

Willow Wren, Chiffchaff, & Warblers.

Coningbeg Light-ship.—May 25th, one "Sallypicker" (Willow Wren ?) disabled.

Tuskar Rock.—Aug. 23rd, one "Grasshopper Warbler" about rock; the first this season. Sept. 15th, one "Grasshopper Warbler" all day; 16th, Willow Warblers all night striking; eight killed; blue sky, wind fresh S.E.; 17th, one Chiffchaff caught at lantern; "a female."

Arklow North Light-ship.—April 30th, three "Sallypickers" killed striking; cloudy to clear, wind northerly.

Golden-Crested Wren.

Fastnet.—Sept. 15th, four seen; wind E.N.E., fresh, misty; 18th, two; wind E.N.E.

Dungarvan.—Oct. 2nd, two struck at 10 p.m.; wind N.W., fresh, foggy, and rain; not killed; 21st, three struck at 10 p.m.; wind S.W., light, gloomy; not killed.

Tuskar Rock.—Sept. 17th, one caught at lantern, 9.30 p.m. Oct. 7th, one killed striking; wind light N.E., overcast, gloomy; 21st, one Gold-crest; 22nd, a "Fire-crest;" 24th, two Gold-crests struck at 2 a.m.; one killed; overcast, wind N., fresh.

Arklow North Light-ship.—Sept. 14th, two Golden Wrens about ship 5 a.m.; wind fresh E., haze.

Howth Baily.—Sept. 9th, Golden Wrens about lantern at night; overcast, wind S.W., light.

Rockabill.—Oct. 21st, Golden Wrens all day and night; several killed; wind light S.E., gloomy.

South Maidens.—March 25th, two Golden-crested Wrens seen on rock 5 a.m.; weather clear, calm; they remained two days, then went S.W. Oct. 4th, twenty struck at 10 p.m.; foggy and calm.

Rathlin Island.—Oct. 4th, twenty Golden-crested Wrens struck at midnight; wind light S.E., overcast, gloomy, none killed; "caught the lot;" 14th, one struck at midnight; caught; wind fresh W., rain, squally.

Arranmore.—Nov. 20th, one at 8 p.m. killed striking; wind E., light, gloomy.

Wren.

Fastnet.—Oct. 6th, one Wren all day; wind E., fresh, clear. Flying into the kitchen at times.

Old Head, Kinsale.—April 27th, two Wrens going N. Nov. 17th, Wrens about station.

Dungarvan.—Oct. 19th, one struck, not killed; wind N.W., light, overcast, ugly.

Barrels Rock Light-ship.—April 25th, one flying N. Oct. 18th, one alighted on ship and flew N.

Tuskar Rock.—April 18th, one "common Wren" all day on rock, wind N.E., light; 22nd, one at lantern, 10.30 p.m., wind S.E., light. Oct. 4th, one "common Wren"; 8th, one; 13th, one; 15th, ten on rock after night; 18th, some passing N.W., 7 a.m. to 12.30 p.m.; wind light W.

Arklow North Light-ship.—May 5th, one small Wren about ship at noon; wind variable.

Howth Baily.—Sept. 9th, a few "common Wrens" about lantern at night; wind light S.W., overcast; one killed striking; 9th to 13th, some Wrens about lantern at night.

Rockabill.—Sept. 13th, Wren at 9 p.m.; wind E., light. Oct. 24th, Wrens, with Blackbirds and Thrushes, all night; several killed; wind S.E., misty.

South Maidens.—May 15th, two Wrens found dead on balcony at midnight; wind S., thick fog. Oct. 9th, one seen on rock; 21st, one.

Rathlin Island.—May 16th, one "grey Wren" struck the glass at midnight; wind light S.W., fog and mist. Nov. 29th, one Wren on island; wind N., fresh.

Arranmore.—June 18th, two; wind light W.

Eagle Island, East.—Oct. 1st, Wrens going S.W., rested and left at 4 p.m., wind light S.W.; 7th, Wrens going W., with Linnets, Stonechats, Sparrows, and Tomtits; wind light N.W. Nov. 3rd, Wrens going S.W., wind S., light; 14th, I enclose a Wren found in lantern last night. [Received.—R. M. B.]

Blackrock, Mayo.—Dec. 14th, six Wrens all day; wind strong S.W. Flying about rock.

Arran Island, North.—Oct. 12th, one on island; wind N.E., light. Dec. 4th, four; remained on island.

Skelligs.—Some Wrens on rock all winter. Aug. 27th, two; but do not seem so plentiful this month. Sept. 4th, one shot.

"Tits."

Tuskar Rock.—Dec. 15th and 16th, "Tits and Chaffinches" in small flocks, 8 to 11 a.m.; 22nd, do.; 23rd, 24th, and 25th Tits.

Copeland Island.—March 20th, four "Tits" killed striking; wind W., strong, squally.

Eagle Island, East.—Oct. 7th, Tomtits, 10 a.m., going W., with Wrens, Linnets, &c.; wind light N.W.

Wagtail.

Fastnet.—Oct. 2nd, one at 8 a.m.; wind S.S.W., clear.

Coningbeg Light-ship.—Sept. 13th and 15th, several Wagtails about ship; wind E., light. Nov. 22nd, one going N.E.

Tuskar Rock.—May 10th, one going W.; wind S.W., fresh, fog. June 22nd, one on rock; calm. Sept. 12th, one all day about rock; fog.

Arklow North Light-ship.—April 24th, some Wagtails about ship at 6.30 a.m.; wind light S.E. Sept. 5th, a flock of "Water Wagtails" going N.W., wind light N.W.; 9th, flocks going W. at 6.30 a.m., wind light S.W.

South Maidens.—Aug. 30th, one seen on rock, 2 a.m.; wind, S.W., clear.

Rathlin Island.—Oct. 1st, a "White Wagtail remains here; a splendid warbler"!

Innishtrahull.—April 26th, two at 10 a.m.; remained some days on island. May 10th, three.

Arranmore.—July 1st, two going S.; wind N.E., light.

Eagle Island, East.—Sept. 15th, two Wagtails all day flying about, wind E., light; 27th, two ditto.

Arran Island, North.—Aug. 22nd, one Wagtail going S.; wind light W.

Straw Island.—April 21st, one going E.; wind light N., fog.

Tearaght.—Sept. 6th, one Wagtail, "appeared to be the white species," remained some days. Oct. 11th, "one Pied Wagtail" on island, wind N.E., light; 19th, two. Nov. 14th and 18th, one; 22nd, two. Jan. 5th to 8th, 1885, one.

Valencia.—Oct. 24th, one. Nov. 24th, one.

Skelligs.—Sept. 17th, one flying about rock; 19th, one with a yellow body, not the same species as seen on 17th. Oct. 4th, one; remained about a week.

Titlark and Rock Pipits.

Fastnet.—Sept. 15th, seventeen, three disabled striking, rainy and thick; 18th, four seen.

Old Head, Kinsale.—Nov. 17th, Titlarks about station.

Tuskar Rock.—Sept. 20th, two "Rock Tits" alighted, 10 a.m. Oct. 18th, Rock Pipits. Nov. 20th, small flock of Titlarks going N.W.

Arklow South Light-ship.—May 10th, four going N.W.; fog.

Arklow North Light-ship.—March 7th, large flocks of Titlarks, 7.30 a.m., haze and fog, wind fresh S.W.; 14th, six about ship, haze and rain, wind S.E.; 16th, flocks at noon going N.W., wind light S.E.; 17th, a flock going N.W.; 19th, some about lantern all night, clear, wind light S.W.; 21st, some Titlarks going N.W. and N.E., wind N.W.; 27th, some Titlarks going N.W., wind S.E.

Kish Light-ship.—April 13th, flocks, supposed to be Titlarks, going S.W.; wind N.E., fresh.

South Maidens.—March 25th, two Titlarks on rock, 5 a.m.; remained two days, went S.W. Oct. 4th, six struck, 10 p.m., foggy, calm.

Rathlin Island.—March 25th, two about lantern, 1 a.m.; wind strong S.E. Breed on island.

Innishtrahull.—Titlarks about in July; they breed here.

Rathlin O'Birne.—July 6th, twelve Titlarks on island.

Arran Island, North.—Oct. 1st, two Titlarks killed striking at 3 a.m.

Larks.

Coningbeg Light-ship.—March 4th, six about light at 1 a.m.; two killed striking; wind S.E., light haze. Aug. 31st, eight. Oct. 4th, ten; 15th, 22nd, from 9 to 12 p.m. about light; 24th, 29th, Nov. 1st, twelve to thirty each day, generally going N.; wind variable. On Oct. 25th, one killed striking; clear, wind N.E., light. Nov. 3rd, three; 15th, 16th, 17th, and 19th, several going N.E. (On 16th and 17th during night, when several were caught.) Larks also noted on Dec. 26th and 31st.

Barrels Rock Light-ship.—April 1st, one rested on ship. Nov. 15th, one; 19th, a few going N. during the day. Dec. 8th, two.

Tuskar Rock.—Feb. 28th, one killed striking, wind strong S.E., misty, overcast; 29th, constantly passing to W., wind fresh S.E. March 4th, thirty killed striking in night, 1.30 a.m. to 7 a.m., wind high, S.S.E., rainy, overcast; flocks also passing in daytime, going W.; 7th, flocks constantly passing to W., wind S. to N.W., rainy, overcast. Sept. 29th, flocks going N.W.; wind moderate S.W. Oct. 2nd, large flocks going E., 8 to 10 a.m.; 3rd, Larks going E.; 5th, Larks about rock; 15th, flocks going N.W. from 1 to 11.30 a.m., thirty killed striking, overcast, gloomy, wind W., moderate; 16th, 17th, 18th, flocks constantly passing N.W., wind W., light, clear; 19th, passing at night, mist and fog, several killed striking; 20th, large flocks passing W. and N.W. day and night, with Chaffinches and Starlings; 29th, 30th, 31st, Nov. 2nd, 3rd, Larks passing N.W., wind generally S. or W. and fresh to a gale; 9th and 13th to 16th, small flocks going W. with Chaffinches and Greenfinches; 24th, passing in small numbers; 29th to Dec. 11th, ditto, always W. or N.W.

Arklow South Light-ship.—March 26th, a flock going S.W.; wind S.E., clear. Oct. 6th, six going N.W.; 7th, 1 to 4 a.m., several about lantern, cloudy, wind N.E., light. Flocks during day flying N.W.; 8th, about lantern, hazy; 16th, flocks going N.W., wind S.W., light; 18th, Larks passing N.W., 10 a.m. until noon; 21st, two killed striking, gloomy; 22nd, Larks about lantern, gloomy; 23rd, flocks flying high to N.W., wind S.W., fresh; 29th, Larks passing N.W. Nov. 3rd, two killed against rigging;

29th, three killed striking at midnight; hazy with rain, wind S.W., light.

Arklow North Light-ship.—Feb. 28th, a large flock of Sky Larks going N.W.; wind S.E., light, hazy. March 4th, large flocks of land birds going S.W. from 6.30 a.m. to 7 a.m., wind light N.E., some Sky Larks killed; 16th, flocks going N.W. at noon, wind very light, S.E.; 19th, some about lantern all night. April 5th, some all day about ship; wind fresh S.W. Oct. 6th, three about ship, 6 a.m., hazy; 21st, flocks passing N.W., twelve killed striking, hazy, wind light S.W. Nov. 6th, small flocks going N.W., wind light E.; 12th, four killed striking, wind strong, S., cloudy; 27th, one flock going N.W., wind fresh N.W., rain.

Howth Baily.—Sept. 9th, small flock all night about lantern, six killed, wind S.W., light to calm, overcast; 9th to 13th, numbers in vicinity, which strike lantern at night.

Rockabill.—Oct. 23rd, Larks all day and night, with Blackbirds, Thrushes, "Stares," and Golden Wrens; wind S.E., gloomy.

Copeland Island. — March 20th, six killed striking; wind strong W., squally.

South Maidens.—Feb. 22nd, eight Larks found dead on balcony at midnight; wind W., moderate. March 30th, one Lark, 3 a.m., weather thick and foggy. Oct. 4th, four Sky Larks struck, 10 p.m., foggy and calm; 20th, 11 p.m., two killed striking; 23rd, 7 a.m., twelve going W.; wind N.E. fresh; 24th, three found dead on balcony after striking. Nov. 23rd, six, 11 a.m., going S.; wind N.W.

Rathlin Island.—Oct. 15th, one killed striking, 11 p.m., fog; wind N.W., light.

Arranmore.—July 2nd, four Sky Larks remain.

Rathlin O'Birne.—July 6th, Lark on island; wind N.W.

Killybegs.—Oct. 23rd, three Sky Larks caught at lantern, 8 p.m.; wind light N.E., gloomy, misty.

Oyster Island, North.—Feb. 16th, ten flying E., wind S.E., strong; 18th, six in fields, flew E. "Until end of month Sky Larks arriving nocturnally." Two to four will nest.

Blacksod.—October, flocks have been seen, and in December.

Clare Island.—March 31st, Larks over island. Sept. 14th, flocks of Larks.

Straw Island.—March 22nd, thirty "Field Larks" going N.; 24th, ten; remained all spring on island. April 3rd, a great number going E.; wind light N.W.

Skelligs.—Nov. 4th, Larks seen on rock.

Snow Bunting.

Dungarvan.—Dec. 8th, two remained all day; wind N.W., light.

Rathlin Island.—Oct. 16th, ten at noon; wind W., light. Remain. Dec. 1st, five on island.

Arranmore.—"In the spring of 1883 [first week in May, see Report for 1883, p. 101.—R. M. B.] two "Lapland Buntings" were shot at station, and in 1884, in the very same week, two others came and were shot also. The four birds are at the station stuffed; they are like the Snow Bunting, but quite black on the back, with a greenish tinge and white breast. The two birds arrived after the Snow Buntings had left." [Two of the specimens alluded to were kindly forwarded by Mr. Williams, and turned out to be Snow Buntings in almost full summer attire. The first week in May is very early for the summer plumage to be so far advanced, and the occurrence of the Snow Bunting in Ireland in May is very unusual; see 'Zoologist,' April, 1885.—R. M. B.]

Rathlin O'Birne.—March, ten Snow Buntings going S.; wind S.E. I have often seen these birds.

Killybegs.—Nov. 13th, about twenty came from N., alighted, then flew E.; wind light, S.E.

Eagle Island, East.—Nov. 30th, five or six Snow Buntings. Remained on island up to the present date, Jan. 1st, 1885.

Blackrock, Mayo.—March 27th, seventeen Snow Buntings alighted, wind light, S.E.; 30th, thirty ditto, wind S.W., strong. Nov. 20th, about forty; wind light, W. "Seen every day from this date until middle of March."

Arran Island, North.—Sept. 5th, five on island, 10 a.m.; wind light, N. Nov. 4th, forty; wind S.W., very strong. Dec. 1st, forty. Remained on island.

Tearaght.—May 6th, one Snow Bunting; shot on 7th. Oct. 5th, six; left about the 20th.

Skelligs.—Sept. 18th, three, and 19th, twelve birds, name

unknown; but I send a specimen. [Skin of Snow Bunting received.—R. M. B.]

Yellowhammer.

Tuskar Rock.—Nov. 20th, small flocks going N.W.; wind fresh N.W., cloudy. Alighted on rock before going on shore.

Rathlin Island.—Sept. 20th, five going S. Dec. 19th, thirty remain here.

Blackrock, Mayo.—Dec. 27th, seven going N.W.; wind S.E., light.

Valencia.—March 21st, one.

Chaffinch.

Fastnet.—May 16th, several at 2 p.m.; foggy, wind W.S.W. At midnight four killed striking; overcast, gloomy.

Old Head, Kinsale.—Nov. 17th, Chaffinches about station.

Coningbeg Light-ship.—Sept. 19th and 20th, several Chaffinches; wind light, E., foggy. Oct. 16th, one caught on deck; 24th, one alighted on ship.

Tuskar Rock.—March 25th, three at lantern all night, wind S.E., light; 28th, Chaffinches all night at lantern, overcast, wind S.E. Oct. 7th, male and female on rock; 8th, four flying about light; 18th, 19th, flocks passing N.W.; 20th, large flocks, and at night; 29th, 30th, Nov. 2nd, still passing N.W.; 13th to 16th, small flocks; 24th, Dec. 1st, 2nd to 9th, 15th, 17th, 22nd, and 26th, Chaffiches in small numbers entered on all these dates as passing W. or N.W., apparently independent of force or direction of wind, which was, however, generally W. or S.

Arklow South Light-ship.—Oct. 13th, flock flying high to N.W.; 18th, Chaffinches going N.W., 10 a.m. to noon.

Arklow North Light-ship.—March 25th, some Chaffinches, 7.30 a.m., about the deck; gloomy, wind light, S.W. Oct. 3rd, three "Finches." Nov. 10th, two Chaffinches about ship; wind fresh, S.

Kish Light-ship.—April 9th, one on ship all day. May 7th, three alighted, 7 a.m.; left in night.

Arranmore.—June 12th, two Chaffinches remained.

Killybegs.—Nov. 14th, one Chaffinch on wall; wind light, E., gloomy.

Tearaght.—Oct. 21st, one, and three or four on several

occasions after; 26th, about a dozen females. Two or three dozen on island up to the present (Jan. 15th, 1885).

Sparrow.

Rathlin Island.—Nov. 27th, forty at all times. Remain here.

Arranmore.—June 30th, eight House Sparrows. Remaining.

Oyster Island, North.—March 24th, two alighted on wall; wind S.E., light.

Tearaght.—May 29th, one Sparrow. Was not seen after.

Eagle Island, East.—Sept. 17th, some Sparrows going S.; wind S.W. Rested. Oct. 1st, 10 a.m., some Sparrows going S.W.; wind S.W., light. Rest and left at 4 p.m. Oct. 7th, several Sparrows going W. Left at noon. (See this station under head of "Linnet.")

Greenfinch or Green Linnet.

Fastnet.—Oct. 28th, one hundred and fifty all day hovering and alighting. Four struck; mist and fog; wind strong, N.E.

Coningbeg Light-ship.—Oct. 16th, one killed striking; wind W., overcast. Nov. 1st and 2nd, flocks going N.; wind S.W. and N. Five fell into the sea; seven alighted on ship. Dec. 1st and 2nd, two.

Barrels Rock Light-ship.—Nov. 19th, one alighted on ship and flew N. Dec. 1st, two seen going N.

Tuskar Rock.—Large flocks passing, Oct. 18th and 19th, from 7 a.m. to noon, going N.W.; wind light, W. Oct. 30th to Nov. 2nd, Greenfinches passing in mornings to W. Nov. 13th to 16th, small flocks in mornings, with Larks and Chaffinches, passing W. Dec. 4th and 5th, passing W., with Larks and Chaffinches, in mornings; stormy from N.W. on 4th, when they remained on rock until weather moderated, then went W.

Rockabill.—July 31st, one Green Linnet.

Dunree Head.—May 6th, flocks of Green Linnets.

Tearaght. — Nov. 14th, one Greenfinch; 21st, about one hundred, which have not left up to the present (Jan. 15th, 1885).

Skelligs.—December; a few on rock during month.

Goldfinch.

Old Head, Kinsale.—May 12th, six Goldfinches about all day.

Howth Baily.—Nov. 16th, "flocks of Goldfinches" in fields.

Arranmore.—June 10th, two Goldfinches; wind N., light. Remained.

Tearaght.—Nov. 11th, a few. Did not see them myself, but was assured they were on island.

Valencia.—April 1st and 13th, May 29th, June 4th and 10th, two to four. Nov. 23rd and Dec. 14th, four.

Linnets.

Fastnet.—Sept. 16th, twenty-three going N.W., wind E., overcast, misty; 20th, five at 3 p.m., foggy. Oct. 14th, eleven all day, gloomy. Nov. 14th, ten around lantern at night; misty.

Old Head, Kinsale.—May 5th, fifty at 5 a.m., often seen after sunrise, when it is calm; 12th, about one hundred going N. inland at 4 a.m. These birds never remain the evening here.

Dungarvan.—Sept. 16th, large flocks going N.W.; wind S.E., strong. Oct. 1st, large flock going N.W.; wind N.W.

Coningbeg Light-ship.—Sept. 20th, several. Oct. 4th, twelve going E.; 23rd, thirty going N.E. Nov. 25th, one about ship. Dec. 17th, two ditto.

Barrels Rock Light-ship.—Feb. 26th, odd Linnets. March 8th, one; 17th, sixty going N., and several small flocks during the day, wind S.W., light, rain. April 18th, three. May 5th, Linnets in twos and threes, 9 a.m. till noon, going N. Sept. 29th, odd Linnets going N.W.; wind W., light. Oct. 4th, three; 15th, four. Nov. 18th, a large flock going N.W.; wind N.E. Dec. 13th, two; 22nd and 23rd, small flocks going north during day; weather clear, wind S.E.

Arklow South Light-ship.—Sept. 15th, five going S.W., fog. 27th, one seen. Nov. 15th, two going N.W.

Arklow North Light-ship.—Nov. 20th, several flocks going N.W.; wind N.E., strong. Dec. 1st, one flock going N.W.; wind light, N.

Howth Baily.—Sept. 8th, five about lantern at night, two killed, wind light, S.W., overcast, gloomy; 9th to 13th, numbers in vicinity of station, which fly against glass at night.

Rockabill.—Dec. 2nd, large flocks going W.; wind S.W.

South Maidens.—Oct. 21st, two Grey Linnets seen; one on rock.

Rathlin Island.—May 12th, flocks all day going W., wind fresh N.; 20th, five at 1 a.m. on the island. Sept. 1st, thirty going S.; wind light, S.E. Nov. 27th, a flock at all times remain here.

Dunree Head.—May 6th, flocks of Grey Linnets. Aug. 12th to 26th, Sept. 6th, 10th, 15th, and 20th, flocks all day flying about.

Arranmore. — July 4th, flocks of Grey Linnets all day; remain. Sept. 18th, flocks going N.; wind N.N.W., fresh. They come daily.

Rathlin O'Birne.—March 11th, fifty to one hundred Linnets going N.; wind N. Came off from shore.

Killybegs.—Sept. 12th, about twenty Grey Linnets alighted, then flew E.; wind E., light. Oct. 2nd, thirty came from N.W., alighted, then flew S.E.; wind S.W., strong.

Oyster Island, North.—Feb. 19th, two flocks flying E.; wind strong, S. May 20th, ten flying S.E.; wind light, N.

Broadhaven.—Oct. 15th, a flock of Grey Linnets going N.W., but generally remain about station.

Eagle Island, East.—Sept. 12th, about twenty Grey Linnets going W., wind S.W., light, rested some time on island; 17th, about one hundred going S. at 8 a.m., wind S.W., light, rested a little while; 18th, two all day, remained until Oct. 1st. Oct. 1st, about two hundred going S.W., wind light, S.W., rested a while; 7th, "about one thousand Linnets, Stonechats, Sparrows, Wrens, and Tomtits" at 10 a.m., going W., wind W.N.W., light, misty, left at noon; 13th, two all day. Nov. 3rd, seventy "Stonechats, Linnets, and Wrens" going S.W.; wind light, S.

Clare Island.—March 31st, Linnets on island. Sept. 14th, flocks of Linnets.

Slyne Head, North.—Nov. 14th, flocks of Linnets.

Straw Island.—March 8th, thirty going S.W.; wind light, N. Oct. 23rd, twenty going N.; wind light, W.

Tearaght.—Grey Linnets left about 24th March. Oct. 10th, hundreds of Mountain Linnets on island and up to present (Jan. 15th, 1885).

Skelligs. — Nov. 4th, a great many Linnets and Finches observed on rock.

STARLING.

Fastnet.—Nov. 10th, midnight, about forty; wind S.S.W., fresh; three killed striking; misty; 14th, twenty all night about lantern; misty, wind N.E., fresh.

Old Head, Kinsale.—Oct. 27th, fifty to sixty going N.; wind N.W., fresh. Few seen this year.

Dungarvan.—Sept. 10th, 22nd, and Oct. 8th, flocks going N.W.; wind S.W. and N.W. Nov. 12th, two struck; killed; wind N.W., light, gloomy, misty.

Coningbeg Light-ship.—Oct. 20th, twelve at 10 p.m.; two disabled striking; wind S.W., rain. Nov. 15th, six; one on board.

Barrels Rock Light-ship.—Starlings passing during nights of 20th, 21st, and 23rd Oct.

Tuskar Rock.—Feb. 22nd, one struck; not killed; wind S.E., strong, overcast, misty. March 1st, one "Stare" struck; misty, overcast; 4th, constantly striking in night; wind S.S.E., stormy. July 26th, one young "Stare" killed striking 11 p.m.; fog. Oct. 12th, a flock; 13th, flocks passing N.W. 10 to 11.30 a.m.; wind fresh N.W.; 17th and 18th, constantly passing in day-time to N.W.; wind light W.; large flocks also at night on the 19th and 20th; fifty killed striking on 19th; twelve on 20th; mist both nights; 30th, large flock (thousands) of "Stares" at 8 a.m. going W.; wind S.W., strong. Nov. 1st, one killed striking, fog. Dec. 23rd and 24th, Starlings going W.N.W.

Arklow South Light-ship.—June 28th, one around lantern at midnight; haze. Oct. 19th, flock of "Stares" going N.W.; wind light N.W.; one alighted on deck; 21st, four killed striking between midnight and four a.m.; gloomy, wind light S.W.; 24th, four killed striking; gloomy, wind N.E., light. Flocks noted on 25th, Nov. 2nd, 4th, 7th, 8th, and 16th; direction of flight N.W.; wind light to fresh and variable, but usually S.W.

Arklow North Light-ship.—June 10th, some Stares found dead. Oct. 21st, great flocks going N.W.; wind light S.W.; ten killed striking; hazy. Nov. 30th, three about ship 6 a.m.; one killed on deck; wind fresh S.W. Dec. 27th, eight killed striking; wind light S.; hazy, rain.

Howth Baily.—Sept. 17th to 20th, thirty in neighbourhood of station; four killed striking lantern.

Rockabill.—Sept. 13th, one Starling. Oct. 6th, large flocks of "Stares" going W.; wind N., light; 18th, 19th, and 20th, "Stares," with Blackbirds and Thrushes, all day; wind light N.W.; 23rd, "Stares," with Blackbirds, Thrushes, Golden Wrens, and Larks, all day and night; several killed striking; gloomy, wind S.E. Nov. 9th, 10th, and 11th, "Stares," with Blackbirds, Thrushes, and Fieldfares, all night; large number killed striking; wind S.E., misty. Dec. 1st, "Stares" and Thrushes all day; 5th, 16th, and 17th, "Stares" observed; one Stare with a white tail.

South Maidens.—Oct. 5th, about one hundred "Stares" going W.; wind S.E., light.

Rathlin Island.—May 29th, four Starlings going S.E. Dec. 7th. flocks all day; remain here; 29th, seventy remaining.

Innishtrahull.—March 17th, one Starling; wind S., light. April 18th, three.

Dunree Head.—Nov. 24th, flocks of Starling.

Tory Island.—Feb. 27th, fourteen in fields.

Arranmore.—June 14th, six going S. Sept. 15th, six going N. Jan. 12th, 1885, eight.

Rathlin O'Birne.—March 14th, six to twenty going N.; wind N.; came off from shore.

Killybegs.—Nov. 2nd, about fifty going S.E.; wind S.W., fresh; 12th, one killed striking at 3 a.m.; wind fresh S.W., overcast, misty.

Broadhaven.—Nov. 1st, several flocks going N.; wind fresh S.E. Starlings generally leave here the last week in Nov.

Eagle Island, East.—Oct. 31st, about one thousand going W. 8 a.m.; rested; wind light S.W.. Nov. 3rd, about one thousand rested on island going S.W.; wind light S.; 5th to 13th, continuous flights of Starlings going W. and S.W.; the wind W. to N.W. The Starling has visited us in large numbers this month. This is strange, as they have not shown much since 1880-81.

Blackrock, Mayo.—Nov. 4th, about forty starlings (wind strong S.E.) alighted; 7th, about thirty; wind N., strong; 29th, twenty-five; wind light N.W. Dec. 19th, seven alighted; stormy, wind W.; 30th, eleven alighted; one struck at 3 a.m. and was killed; clear, wind S., light.

Blacksod.—Oct. 2nd, a large flock going inland; wind N.W.,

light. Nov. 3rd, a large flock alighted on the dome of the light-house; appeared very tired; rested five minutes. During Nov. and Dec. flocks of Starlings.

Clare Island.—Nov. 13th, hundreds of Starlings going N., wind light S.E.; 14th, continuous flocks going N., wind E., light; 20th, continuous flocks of about two hundred flying about station; remained until end of month. Not so numerous in December.

Slyne Head, North.—Nov. 9th, flocks of six to twenty Stares.

Arran Island, North.—Oct. 17th, large flocks going N.E.; wind light W. Nov. 3rd and 4th, large flocks passing N.W. all day; wind fresh S.W.

Straw Island.—Oct. 30th, six going N.; wind light N.W. Nov. 17th. twenty going E.; foggy. Dec. 3rd, a large flock of "Stares" going N.E.; wind strong W.

Tearaght.—Nov. 1st, about forty; smaller numbers on several occasions after; 14th, a few flying about light all night, fourteen were captured on sash bars of lantern, one against kitchen window dwellings; wind N.W., rain.

Valencia.—Oct. 23rd, one hundred. Nov. 10th to 15th, ten to fifty, and a few on Dec. 10th, 12th, and 16th; direction of flight generally S. or S.W.

Skelligs.—Oct. 11th, twenty on rock, wind N.E., stormy; 24th, several.

Chough.

Dungarvan.—March 20th, two feeding. Rarely seen.

Tory Island.—A pair; never leave, and breed in the cliffs.

Arranmore.—March 28th, eight Choughs remained to breed.

Tearaght.—Nov. 18th, from twenty to thirty flying about. Still here Jan. 15th, 1885. Usual number two to four.

Skelligs.—April 1st, several Choughs about rock. Oct. 24th, a few Choughs about rock during this month.

Raven.

Rathlin Island.—Sept. 22nd, six Ravens going S.; wind N.W., fresh. Oct. 21st, four do.; wind light S.W.

Arranmore.—May 20th, two Ravens arrived. Sept. 8th, two.

Tearaght.—Aug. 11th, one on island, calm; 25th, three; wind light W. Sept. 1st, one. Nov. 14th, one.

Valencia.—Oct. 6th, two seen.

Skelligs.—June, five Ravens visit the rock nearly every day and go towards shore in evening. Oct. 24th, during this month four arrive in morning and leave towards evening.

Hooded Crow.

Old Head, Kinsale.—Oct. 5th, ten going N.W.; wind E., light.

Dungarvan.—Sept. 8th, five all day.

Tuskar Rock.—April 7th, one grey Crow going N.W.

Innishtrahull.—June 12th, twelve grey Crows. Some breed here.

Arranmore.—Sept. 11th, four. They remain all the year.

Broadhaven.—April 7th, twenty-four "grey-back Crows" going S.E.; wind S., strong, foggy.

Clare Island.—Sept. 20th, six "grey-backed Crows;" wind W., light.

Arran Island, North.—Aug. 22nd, four. Oct. 1st, five.

Straw Island.—Feb. 27th, two seen, came from mainland. Nov. 19th, four going E.

Valencia.—Two at intervals in Sept., Nov., and Dec.

Skelligs.—April 1st, ten grey Crows about rock.

Dursey Island.—April 12th, May 11th and 24th, two to four.

Rook.

Fastnet.—Sept. 16th, two "Crows" going E. at noon, wind S.W.; 20th, two at five p.m., foggy. Nov. 14th, thirty "Crows," wind E., gloomy, 10 a.m. to 3 p.m.

Coningbeg Light-ship.—Nov. 15th, one "Crow."

Barrels Rock Light-ship.—Nov. 13th, upwards of sixty "Crows" coming from S.E., going N.; wind N.E., light.

Tuskar Rock.—Nov. 16th, one "Crow on rock at 8 a.m., appeared very tired, wind light E., went W.; 17th, two seen at 8 a.m. going N.W., wind S.E., light; 20th, one; 24th, a flock going N.W. at 8 a.m., wind strong N.W.

Arklow North Light-ship.—March 21st, two "Crows" going N.W.; 27th, two ditto. April 30th, two ditto. Nov. 2nd, two flocks of "Crows" going N.W.; wind fresh W.

Howth Baily.—Sept. 30th, forty-eight "Crows" going N.W.; wind S.W., fresh.

Rockabill.—July 31st, some "Crows" going W. remained a short time.

Copeland Island. — March 20th, large flocks of "Crows passing at a great height to N.; wind W., strong, squally.

South Maidens.—Jan. 19th, one "Crow" at 8 a.m. going S.W.; seldom seen here. Oct. 23rd, two flocks of forty going N.E.; wind S.W., strong. Nov. 3rd, one; 4th, a large flock going N.W. "During Oct. there was a rush of 'Crows' to this rock from the direction of Scotland."

Rathlin Island.—May 10th, flock of "Crows" on island. Oct. 10th, two hundred Rooks all day; wind fresh N.W. Nov. 19th, a flock on island.

Innishtrahull.—March 16th, twelve "Crows" (Rooks), wind S.E., fresh; 19th, one. April 10th, two going S. June 12th, eight all day.

Arranmore.—July 26th, large quantities of rooks and their young come from mainland and remain during month. Sept. 28th, fourteen going N.W., high; wind S.W., strong.

Rathlin O'Birne.—March 21st, twelve to twenty flew from shore and returned at night.

Killybegs.—Sept. 2nd, twelve rooks came from N.E., flew E.; wind N.W.

Broadhaven.—Dec. 1st, several flocks of Crows pass here daily.

Eagle Island, East.—Nov. 14th, thirty "black Crows" 10 a.m. to 4 p.m., flew inland.

Blackrock, Mayo.—June 20th, seven alighted 8 a.m.; wind light S.

Clare Island.—Sept. 12th, about two dozen "Crows" going S.W.; wind N.E., light.

Slyne Head, North.—Sept. 15th, flocks of "Crows," about fifty, apparently young birds.

Valencia.—March 31st and April 13th, "Black Crows," a few.

Tearaght.—Nov. 5th, "Carrion Crows," sixty passed from N.W. to S.E. at 11 a.m., wind W., strong, gloomy; 10th, three hundred in continuous flocks of from fifty down to two or three, some following far behind, and all going from W. to E., clear and bright; 14th, continuous flocks all day going E. (about three hundred), wind S.E., light; 15th, about three hundred

do., wind light E.; 16th, one hundred going E., wind N.E., light; 17th, one; 20th, about fifty going E., wind N., fresh; 25th, ten do., wind E. [Refer to 'General Remarks of Light-Keepers,' p. 135.—R. M. B.]

Skelligs.—Nov. 2nd, a large flock of Rooks. This flight of Rooks occurred nearly every day up to the 24th inst.; sometimes they alighted on the rock.

Jackdaw.

Fastnet.—Two, 6 a.m., wind S.E., all day on rock.

Tory Island.—A few pairs of Jackdaws breed.

Blackrock, Mayo.—April 12th, five Jackdaws alighted on rock 9 a.m.; wind light E. Sept. 20th, fifteen Jackdaws going N.E.; wind S., fresh. Oct. 2nd, eleven going N., wind S.E., fresh; 19th, eight going E., wind light W. Nov. 13th, ten going N.E.; wind light W. Dec. 31st, seventeen going S.; wind fresh S.E.

Tearaght.—Nov. 14th, one young Jackdaw, wind light S.; 16th, another young one (caught).

Valencia.—Sept. 5th to 15th, a few; Nov. 17th, two.

Skelligs.—Nov. 2nd, two Jackdaws on rock.

Dursey Island.—March 22nd, twelve going E.

Magpie.

Old Head, Kinsale.—June 15th, one going N.; very seldom seen here.

Arranmore.—June 26th, two Magpies going W.; wind light W. Sept. 29th, four going S.E.; wind W., light.

Tearaght.—Nov. 18th, one at 10 a.m.; wind E.

Valencia.—Oct. 7th, one.

Swallow.

Old Head, Kinsale.—June 21st, hundreds at 4 a.m.; wind E., light.

Dungarvan.—March 18th, "one House Swallow" 11 a.m., wind W., fresh, coming from S.E.; remained an hour about station. April 12th, 13th, and 14th, a number of "House Swallows" all day, arriving in twos and threes, going N.W., wind light N.E., fine; 26th, twos and threes all day going N.W.

Coningbeg Light-ship.—April 13th, one going N.E., wind N.E.; 29th, two going N. May 7th, four; 10th and 11th, several about, many on ship during night; 13th, one; 27th, one killed striking. Odd birds on Aug. 23rd, Sept. 5th and 12th, Oct. 2nd and 4th. Several on Sept. 13th, 17th, 18th, all flying about ship.

Barrels Rock Light-ship.—April 29th, odd Swallows all day flying N., the first seen, about fifty in all; 30th, do. May 9th to 20th, Swallows passing north daily. Aug. 25th, seven going S., the first seen this month. A few on Sept. 7th, 12th, 17th, and Oct. 3rd, most going S.E.

Tuskar Rock.—April 29th, passing in pairs to N.W.; wind N.E., light. Passing W. on May 5th, 7th, 9th, and 11th all day, wind generally S. or S.W.; also on 22nd, 24th, 25th (all day), 26th, 28th, to N.W., wind variable. From May 31st to June 21st, one or two noted at intervals. July 27th and 28th, some Swallows about; rain and fog. Sept. 4th and 5th, flocks going N.W., wind N.W.; 16th to 19th, flocks passing (on 18th constantly) to N.E., E., and N.W., wind S.E. to N.E.; one or two on Sept. 21st and Oct. 1st; on 2nd to 4th Oct., large flocks at intervals going E., wind S.W. and N.E., light; 13th, one; 19th, one killed striking, fog.

Arklow South Light-ship.—April 25th, one at 4.30 a.m. going N.W.; 29th and 30th, two or three going N.W. May 1st, a flock going S.W., and occasional Swallows going W. or N.W. until May 9th; on the 10th continuous flocks from 8 a.m. until noon, going N.W., wind light S.W., haze, and fog; 11th, flocks around ship, fog; 17th and 18th, two to twelve. July 7th, four; 29th, four going N.W. Sept. 21st, three going S.E.; 28th, twelve going S.W. Oct. 1st, a flock going S.W.; wind W.S.W., light.

Arklow North Light-ship.—April 25th, three going N., wind light S.W.; 27th, a flock going N., wind N.E., light; 28th 29th, and 30th, flocks passing N. and N.E.; wind fresh, variable. May 1st, 2nd, 6th, 7th, and 10th, flocks seen passing N. or N.W., wind generally S.W. to S., but E. on 6th; on May 11th a "quantity of Swallows" are entered as passing N. at noon, wind S.S.W., light, hazy. Sept. 4th, two flocks going N.W., wind N.W., clear; 9th, continuous flocks going W. 6.30 a.m., wind S.W., clear; 20th, a flock going S.W.; 28th,

three about ship. Nov. 4th, two at noon going S.W.; gale from S.W.

Kish Light-ship.—May 5th, continuous flocks going N.W. 3 to 7 p.m., wind light N.W.; 11th, three seen; 13th, two.

Rockabill.—April 20th, about two dozen going W. at noon; wind N.E., very light. The first arrival. May 12th, Swallows passing S.S.E. all day; 27th, Swallows going W., wind light N.E. July 1st, two breed here; 11th, one killed striking in night. Sept. 13th, Swallows all day collecting for departure; wind strong E.

Copeland Island.—April 16th, two Swallows seen; wind E., light.

Innishtrahull.—April 28th, one "Swallow (Martin)," wind light S.E.; first for season. Arrived in greater numbers afterwards. May 6th, several "Swallows (Swifts)" all day; remained until about Aug. 1st. June 25th, a number of Swallows. July 21st, one "Swallow (Martin)" struck glass 1 a.m.; not killed; wind N., fresh, gloomy. I never saw one at glass before.

Dunree Head.—May 4th, flocks of Swallows arrived.

Arranmore.—July 6th, one; wind strong N. Oct. 4th, six going S.W.; wind strong S.W.

Rathlin O'Birne.—July, Swallows, twelve to twenty.

Oyster Island, North.—April 17th, two flying about. May 12th, six ditto. Swallows have been flying about almost daily to date of sending schedule, July 15th.

Clare Island.—May 20th, observed a number of Swallows; wind N.

Tearaght.—May 10th, one; 12th, six; 13th, one; 28th, six. Seemed tired, and were not much on the wing while on the island.

Skelligs.—Sept. 17th, one Swallow flying about. Oct. 5th, one. Remained about a week.

Martin.

Dungarvan.—May 3rd, a few going N.

Swift.

Dungarvan.—May 5th, three Swifts (wind strong N.W.) going N.W., flying high; 7th, two; 11th, five going N.W.; 14th, small scattered flocks going N.W.

Cuckoo.

Dungarvan.—May 15th, heard for first time.

Rockabill.—May 8th, one at 8 a.m.; rested one hour.

Copeland Island.—April 16th, two Cuckoos heard on island; wind E., fresh.

Rathlin Island.—May 1st, Cuckoo 8 a.m.; wind S.W., fresh.

Innishtrahull.—May 11th, two at 8 a.m.; wind fresh S.E. None seen before since I joined this station. Cuckoos are very scarce visitors; this pair were on the island three or four days.

Dunree Head.—May 1st, Cuckoo first heard here.

Arranmore.—May 1st, two Cuckoos arrived on island; wind light W.

Pigeons.

Old Head, Kinsale.—Dec. 14th, forty Rock Pigeons going W.; five shot; wind S.S.W., strong.

Howth Baily.—Sept. 30th, thirty-six Pigeons going S.; wind S.W., fresh.

Rockabill.—July 26th, Pigeons going W.; remained one hour. Oct. 21st, Pigeons.

Dunree Head.—Aug. 27th to 31st, flocks of Pigeons going N.

Arranmore.—June 20th, flocks of Rock Pigeons all day, remaining. Oct. 8th, fifteen Wild Pigeons remain on island.

Clare Island.—May 10th, a number of Pigeons building in the cliffs and caves round Island. These birds are of a bluish colour, and green round the neck. Aug. 31st, wild Pigeons in the caves. Sept. 30th, about a dozen Pigeons going N.

Straw Island.—Dec. 22nd, four going N.E.; wind strong W.

Tearaght.—Jan. 15th, fifteen Rock Pigeons still on island. April 7th, one. May 6th, one; 11th, two; 19th, one; none after this date. Oct. 26th, one. Nov. 12th, three; 24th, fifty, which are on island up to present (Jan. 15th, 1885).

Dursey Island.—Wild Pigeon, two to eight at intervals from May 8th to July 10th.

Grouse.

Blackrock, Mayo.—July 11th, one at 7 a.m.; wind light S., clear. Caught the day after it was seen, nearly dead.

Clare Island.—June 15th, a number of Grouse on the highest

hill on the island; saw a number of young Grouse also. Aug. 20th, large flocks seen in mountainous part of island. [Probably resident, R. M. B.]

Golden Plover.

Fastnet.—Sept. 15th, two "Grey Plover" killed at midnight, wind E.N.E., fresh, rainy, and thick; 18th, 19th, and 20th, one to three seen all day, foggy.

Old Head, Kinsale.—June 5th, one going S. Seldom seen at this time of year.

Copeland Island.—Golden and Grey Plover from October to April are seen in flocks occasionally.

Rathlin Island.—March 23rd, flocks at noon on island. Sept. 9th, eight all day, remain; 28th, two. Oct. 6th, two. Nov. 3rd, thirty on island. Dec. 14th, twenty-three ditto.

Tory Island.—Jan. 20th, six "Grey" Plover. Feb. 5th, five going S.W.

Arranmore.—Oct. 10th, eighteen "Grey" Plover arrived on island. Nov. 8th, twenty; they remain all the winter.

"Dotterel."

Rathlin Island.—Nov. 9th, two "Dotterel" at noon going N.; wind W., fresh.

Green Plover.

Old Head, Kinsale.—Dec. 10th, large flocks all day going N.; wind S.W., strong; twenty shot.

Dungarvan.—Oct. 3rd, large flock of Lapwing going N.W.; wind N.W., light. Dec. 6th, large flock.

Rockabill.—May 27th, Lapwing going N. Nov. 16th, Lapwing. Dec. 29th, Lapwing going S. 9 a.m.; wind light S.

South Maidens.—April 23rd, several Lapwings over lighthouse 10 p.m.; did not strike. Sept. 12th, one killed against glass in night.

Rathlin Island.—May 31st, two going S.W. Aug. 21st., two. Sept. 13th, four. Oct. 21st, "Peewit."

Innishtrahull.—Feb. 14th, four going N.E., wind S.E.; 20th, four seen.

Tory Island.—Jan. 20th, two Lapwings; 21st, seven going S.E. Feb. 27th, four in fields.

Arranmore.—Nov. 26th, one Lapwing; wind S.E., strong.

Rathlin O'Birne.—March 17th, twelve Green Plover on island; calm, clear.

TURNSTONE.

Dungarvan.—March 23rd, two. April 13th, fourteen flying up bay.

"SAND LARKS."

Coningbeg Light-ship.—May 30th, one Sand Lark going N.E. Aug. 22nd, five Sand Larks. Nov. 1st, one "Common Sandpiper" going N.E.; 21st, one "Sea Lark."

Rockabill.—July 6th, "Sand Larks" at noon.

South Maidens.—Sept. 12th, about twelve "Sand Larks" going S.W. 10 p.m.; wind N.W., foggy. Oct. 20th, twenty-six in vicinity; 21st, six on rock up to 29th. "During Oct. there was a rush of Sand Larks to this rock coming from the direction of Scotland."

Rathlin Island.—Oct. 15th, one caught 11 p.m.; fog, wind light N.W.

Innishtrahull. — May 8th, several "Sand Larks" seen frequently; build near light-house.

Rathlin O'Birne.—March 6th, forty "Sand Larks" on island. Always seen on rocks; six shot.

Blackrock, Mayo.—June 29th, fifty at 11 a.m.; wind S.W., light.

Straw Island.—March 11th, forty "Sand Larks" going E.; 15th, a large flock (one remained on island). Dec. 11th, thirty going N.W.; wind strong N.

SEAPIE.

Old Head, Kinsale.—Oct. 7th, seven going N.

Dungarvan.—June 6th, about fifty going N.W.; scarce here during summer months; 12th, large flocks; 18th, small flocks flying into bay.

Copeland Island. — Jan. 12th, Oystercatchers in two large flocks (150 to 200); remained some months.

South Maidens.—Aug. 23rd and 24th, large flocks of Seapies in vicinity.

Rathlin Island.—Aug. 30th, seven Seapies at noon, going N. Oct. 30th, two Oystercatchers.

Innishtrahull.—May 20th, twelve Seapies; a pair breed on some outlying rocks.

Tory Island.—Feb. 19th, one Oystercatcher on rocks.

Arranmore.—May 26th, six Seapies arrived to breed on rocks.

Oyster Island, North.—March 24th, about forty on strand; wind light, S.E.

Arran Island, North.—Aug. 20th, one killed striking, 1 a.m.; wind W., light, foggy. Sept. 5th, one. Oct. 1st, forty.

Straw Island.—Feb. 6th and 7th, ten to twenty; generally remain during day and leave in evening for the large island of Arran. Nov. 22nd, forty; remained on island.

Tearaght.—Feb. 3rd, one, first seen; 27th, two. A couple breed here every summer. Aug. 19th, five; usual number two. Last seen on Sept. 17th (two).

Valencia.—Sept. 5th, 6th, and Oct. 23rd, one to five.

Skelligs.—Aug. 23rd, two feeding on the rock.

Redshank.

Coningbeg Light-ship.—Aug. 31st, four Redshanks.

Tuskar Rock.—May 18th, twelve Redshanks on rock.

Rathlin Island.—Nov. 10th, one Redshank on the island.

Tory Island.—Jan. 29th, one Redshank going W.

Rathlin O'Birne.—March, twenty Redshanks on island; seen on rocks in flocks.

Broadhaven.—July 31st, a flock of Redshanks going E.

Arran Island, North.—Sept. 5th, twelve Redshanks. Dec. 1st, twelve.

"Greenshank."

Dungarvan.—Nov. 4th, fourteen Greenshanks going N.E., rain and mist; wind fresh, S.W.

Heron.

Old Head, Kinsale.—Oct. 23rd, two going N.; wind S.E. One shot.

Dungarvan.—July 6th, five; 11th, three; 14th, six. All in morning, and apparently young birds, going W and S.W. Aug. 27th, five.

Tuskar Rock.—Sept. 19th, one alighted on rock.

Howth Baily.—Oct. 10th, one "Crane" going N.E., wind N., light; 12th, two going S.W., wind N., light.

Rockabill.—Nov. 16th, one Crane. Dec. 5th, one.

Rathlin Island.—Aug. 20th, one Heron going E. Nov. 7th, one going E.

Innishtrahull.—April 1st, one "Crane" (Heron); wind fresh, S.W. Seldom seen here.

Tory Island.—Jan. 21st, one common Heron at marsh.

Blackrock, Mayo.—Sept. 27th, two "Cranes" going S.E.; wind S.W., strong.

Clare Island.—April 6th, a "Crane" on a lake in island.

Tearaght.—Sept. 2nd, one going E., wind fresh; 11th, three going N.W., wind E.

Valencia.—Sept. 16th, one seen.

Skelligs.—Sept. 5th and 6th, one and two flying E.

Whimbrel and Curlew.

Old Head, Kinsale. — April 25th, 11 p.m., Whimbrel all around light; wind E., strong, rain and fog. I never saw such a rush of these birds before. Dec. 20th, sixty to hundred all day; wind N.W., strong. Two shot.

Dungarvan.—April 23rd, two large flocks of Whimbrel going N.W., flying wild and excited, wind S., fresh; 24th, small flocks all day going N.W.; also on 26th and 27th. On 28th great numbers of Curlew are entered, going S.E. and S.; wind N.E., light. May 5th, great numbers of Whimbrel all day going W. and N.W.; wind N.W. Never so numerous in this locality. May 14th, small flocks all day going N.W. June 25th, twenty Curlews going N.W., scarce all the spring; 30th, vast numbers of Curlew arriving in great numbers and going N.W. all day; wind N.W., fresh. July 10th, large flocks going N.W.; 28th, large flock.

Coningbeg Light-ship.—April 19th, flocks of Whimbrel going N.E., high over ship at 11 p.m.; wind light, N.E. May 1st, six going N.W.; wind S.W., fresh. Aug. 24th and Sept. 11th, two going N.E.

Tuskar Rock.—April 6th, two Curlews going E. May 10th, seven going N., wind fresh S.S.W.; 17th, one on rock all day, apparently tired; 28th, one young Curlew (Whimbrel?) killed striking. Sept. 5th, two going N.W.; wind N.W.

Arklow South Light-ship.—July 27th, one Curlew going N.W.

Howth Baily. — Nov. 10th, twenty-three in fields; 16th, flocks.

Rockabill.—March 14th, Curlews about the light at night; one killed striking; wind S.E., misty. May 26th, Curlews going W., wind N.E., light; 28th, ditto. July 9th, "May-birds" going W. Sept. 1st, Curlews seen; remaining.

South Maidens.—April 23rd, several Curlews over lighthouse, 10 p.m.; did not strike. Aug. 21st, nine going S.; 23rd and 24th, eight and twenty going S.W. and E.

Rathlin Island.—April 4th, Curlews heard at night; 9th, two. May 23rd, "May-birds" on the island. Nov. 13th, fifteen going S.W.; wind N.W., light.

Innishtrahull.—Feb. 28th, flock of Curlews; remained till end of August. May 8th, flocks of about twenty young Curlews all day. "They are commonly called May-birds."

Tory Island.—Jan. 29th, one "Jack Curlew" going S.W. Feb. 27th, five Curlews in field. March 2nd, seven going S.

Arranmore.—Oct. 13th, fourteen Curlews going N.W.; wind N.W., strong.

Rathlin O'Birne. — March, ten to twenty Curlews frequent this island.

Killybegs.— Sept. 14th, several flocks of Curlews alighted, twelve to twenty in each; wind light, E. Dec. 27th, four flying about.

Oyster Island, North.—April 1st, four Curlews came from N.W. and alighted on island.

Broadhaven.—May 1st, several flocks of "May-birds" going N.W.; seen up to May 31st.

Blackrock, Mayo.—April 15th, Whimbrel at midnight, appa- flying N.; wind N., light. July 14th, eleven Curlews, 9 a.m., wind S.E., strong, going W. Aug. 5th, eighteen, at 9 a.m., going N.W., flying high; wind light, S.E. Sept. 22nd, nine alighted; wind strong, N.W. Oct. 6th, seventeen going S., wind light, S.E.; 23rd, eleven alighted.

Clare Island.—Sept. 6th, large flocks of Curlews over the fields.

Arran Island, North.—Aug. 22nd, one Curlew killed striking; wind light, W., foggy. Oct. 1st, twenty.

Straw Island.—April 23rd, fifteen Curlews going N. Nov. 23rd, thirty going N.E.; wind S. Dec. 15th, twenty going S.

Tearaght.—March 4th, one Curlew; remained about a fortnight. Sept. 5th, one going E.; one or two afterwards on

several other dates. One female shot Nov. 17th. Sept. 18th, one Whimbrel flying about island.

Valencia.—Sept. 5th, twenty Curlews; always here.

Skelligs.—Aug. 9th to 23rd, a few Curlews heard and seen.

Dursey Island.—Curlews, four to twelve, April 20th to May 12th, at intervals, going W. or N.W.

Woodcock.

Fastnet.—Nov. 14th, five about lantern. Two killed striking; wind N.E., fresh, misty.

Old Head, Kinsale.—Dec. 2nd, two Woodcocks; one shot.

Coningbeg Light-ship.—May 26th, one killed striking.

Tuskar Rock.—March 4th, one went W.; wind strong, N.E.

Howth Baily.—Oct. 9th, one killed striking, 5 a.m.; wind N.W., light, rain.

Rockabill.—Nov. 14th, 8 p.m., one killed striking; wind E., light, gloomy.

South Maidens.—Feb. 15th, one killed against glass, 3 a.m.; wind strong, N., snow, weather thick. March 25th, one on rock at 5 a.m.; remained two days, went S.W.; weather clear, calm.

Rathlin Island.—Dec. 29th, three going S.; wind E., fresh.

Tory Island.—Jan. 30th, one Woodcock.

Arranmore.—Dec. 10th, one Woodcock going S.E.; wind W., light.

Clare Island.—July, several Woodcocks; the summer being dry, they are more numerous than other years. Aug. 25th, Woodcocks seen.

Slyne Head, North.—Oct. 13th, one killed striking, 3 a.m.

Arran Island, North.—Nov. 3rd, one on island; wind S., strong.

Skelligs.—Nov. 10th, one found killed by a Hawk; 12th, one seen.

Snipe.

Fastnet.—Sept. 15th, one "Jack Snipe" killed striking at midnight, rainy and thick; wind E.N.E., fresh.

Old Head, Kinsale.—Dec. 2nd, ten Snipes; five shot.

Tuskar Rock.—March 4th, one Snipe found dead; wind strong, N.E.

Rockabill.—Nov. 14th, 8 p.m., one killed striking; wind E., light, gloomy. A Woodcock also killed.

Rathlin Island.—Dec. 8th, one Jack Snipe; "at all times." 10th, Snipes numerous.

Innishtrahull.—March 17th, one Jack Snipe. Snipe scarce this season.

Tory Island.—Jan. 20th, four resting on island. Feb. 27th, two in fields.

Arranmore.—Dec. 9th, eight Snipe; wind S.E., strong.

Rathlin O'Birne.—March, two to six frequent marsh.

Broadhaven.—Oct. 21st, two "flocks" going S.W.; they generally stay about station.

Arran Island, North.—Nov. 29th, one going S.; wind S., light.

Tearaght.—Feb. 23rd, one. March 4th, one; 17th, one. Not observed after this date.

Corn Crake.

Old Head, Kinsale.—Dec. 20th, one at 1 p.m.; wind N.W., strong. I shot this bird in a wood. It is strange to see it at this time of year.

Dungarvan.—April 22nd, one heard; first time. May 10th, one heard.

Tuskar Rock.—March 28th, one caught on rock at noon; wind moderate, E. May 25th, one alighted on rock a few minutes, going N.W.; wind E.; drizzle, misty.

Rockabill.—May 8th, one [leg and wing forwarded.—R. M. B.] 27th, caught two in night; wind light, S., misty.

Rathlin Island.—May 1st, Corn Crake, 8 a.m.; wind S.W., fresh.

Arranmore. June 8th, two Corn Crakes arrived; wind E., light.

Rathlin O'Birne.—July 30th, one on island; seldom seen.

Geese.

Tuskar Rock.—Oct. 16th, one "Brent Goose" shot. The first ever seen by me here.

Arklow North Light-ship.—Dec. 27th, a flock going S.; wind light, S.

Howth Baily.—Aug. 30th, sixty-seven Barnacles going W. at 2 p.m.; wind S.W., light. Sept. 5th, thirteen going W.; wind N.W., fresh.

Rockabill.—Oct. 21st, Barnacles going N., 11 a.m.; wind S. Dec. 29th, Wild Geese going S., 9 a.m.; wind light, S.

Copeland Island.—Feb. 3rd, eight Wild Geese.

Rathlin Island.—Aug. 23rd, nine Wild Geese going N.W Nov. 16th, a flock going S.; wind S.E., light.

Innishtrahull.—April 1st to 10th, several flocks of Barnacles and Wild Geese going N.; 18th, flocks of Barnacles going N.E. May 4th, one Barnacle.

Dunree Head.—Jan. 12th, flock of Wild Geese going N.; wind N.W., strong. Feb. 10th and 16th, flock of Barnacles, about sixty, going N.; wind N., strong both days. Barnacles frequent a place called Inch, nine miles distant. Oct. 16th, flocks of Wild Geese; 20th to 27th and Nov. 4th, ditto; 16th to 24th and 26th, flocks of Barnacles.

Tory Island.—Feb. 5th, three Barnacles going S. March 17th, Wild Geese going W., wind S.W., fresh; 26th, six Barnacles going E.; wind S.E., light.

Arranmore.—March 26th, three flocks left on this date. Oct. 20th, one flock of Barnacles arrived on island, wind S.E., strong; 23rd, another flock, wind N.E., strong; they remain all the winter. Dec. 21st, twenty-four going N.E.; wind E., light.

Rathlin O'Birne.—Nov. 7th, nine; 9th, eleven; 11th, forty, in each case going S.E., wind N. Eleven rested on island; shot four of them.

Oyster Island, North.—March 17th, forty going N.W., alighted; wind strong, S. April 1st, fourteen flying S.E.; wind S., light.

Broadhaven.—Oct. 1st, six dozen Wild Geese going W.; wind W., strong.

Eagle Island, East.—Nov. 20th, about eighty Barnacles going N.E.; wind strong, N.W. I only saw one flock this autumn. At Killybegs I very frequently saw flocks of Wild Geese passing overhead in autumn. Perhaps this island is out of their track, being more to west.

Blackrock, Mayo.—April 5th, twenty Wild Geese going N.W.; wind light, E.

Blacksod.—Nov. 3rd, twenty-four Wild Geese, and seen during month at intervals. Dec. 27th, some seen.

Clare Island.—Nov. 13th, about two dozen Wild Geese going N.W.; wind light, E.

Slyne Head, North.—Nov. 4th, Barnacles, about twenty.

Arran Island, North. — Oct. 24th, one Wild Goose going N.W. Nov. 10th, one shot.

Straw Island.—Dec. 18th, six Wild Geese going N.; wind strong, N.W.

Tearaght.—Oct. 11th, two going N.W.; wind strong, N.E.

Valencia.—Oct. 15th, twelve going S.E.

Ducks.

Old Head, Kinsale.—Dec. 2nd, thirty Ducks; three shot.

Dungarvan. — May 13th, one Wild Duck going E.; rare so late in season. June 26th, two. July 24th, two. Oct. 14th and 15th, large flocks of "golden-headed Widgeon" in Bay; wind light, N. Nov. 3rd, large flocks of "common Wild Ducks" flying out to sea, calm.

Coningbeg Light-ship.—May 5th, eleven Wild Ducks going W.

Arklow South Light-ship.—Feb. 3rd, two flocks flying N.

Arklow North Light-ship.—Nov. 16th, a flock going S.W.; wind light, S.E.

Kish Light-ship.—May 23rd, seven going N.W., high; wind N.E. June 20th, two grey Wild Ducks in water.

Rockabill.—Dec. 4th, twenty Wild Ducks going W. at noon, wind S.W., light; 19th, Wild Ducks about light, wind S.W., stormy, with rain; one killed striking, 2 a.m.

Copeland Island.—Jan. 20th, large flocks of Teals and Ducks; they appear to resort Mew and Copeland Islands from November to March, when they leave and are not seen again.

Rathlin Island. — May 25th, five going N.W., wind S.E., light; 28th, two going S.E., wind S.E. Aug. 26th, six going N.W. Sept. 7th, two flocks of Ducks going S.; wind N.W., light. Dec. 7th, Wild Ducks at all times, remain all the year; 12th, five "Shelldrakes" going S., wind W., light.

Dunree Head.—Jan. 20th, flocks going N.; wind W. They frequent a place called Inch, nine miles distant. Dec. 24th, 27th, 29th, 30th, large flocks about.

Tory Island.—March 2nd, two Wild Ducks.

Arranmore.—Sept. 4th, one Wild Duck on a lake in island.

Rathlin O'Birne.—July 9th, three going E.; seldom seen.

Clare Island.—April 6th, three Wild Ducks on a lake in island.

Straw Island.—Feb. 26th, four going S.W., foggy. Nov. 3rd, twenty-two going S.; wind W., strong. Dec. 1st, six "Shell-drakes" going N.E.; wind W., strong.

Merganser.

Dungarvan.—May 6th, two at 5 a.m. going E. Dec. 9th, five feeding in bay.

Oyster Island, North.—Feb. 6th, four from N.E. alighted in river; wind S.E., strong. March 18th, one in river.

"Grebe."

Innishtrahull.—May 3rd, one Grebe, 2 p.m.; wind high, W.

Great Northern Diver.

Fastnet.—May 9th, one Northern Diver going N.; wind W.S.W.

Dungarvan.—Sept. 25th, one Great Northern Diver feeding, wind S.W., strong; 26th, three. Nov. 13th, three.

Howth Baily.—Oct. 12th, one swimming on bay; wind N., light.

Clare Island.—During October a few pairs about the rocks.

Straw Island.—Nov. 28th, two going S., calm.

Guillemot.

Old Head, Kinsale.—April 20th, commence to build about this date.

Barrels Rock Light-ship.—Aug. 29th, Sept. 2nd and 3rd, large flocks of "Murs," apparently after fish. Nov. 12th, a few; 21st, small flock. Dec. 28th and 29th, large flocks of "Puffins or Murs" going S.E.

Arklow North Light-ship.—April 22nd, a great quantity of "Murs" going N.; wind S., fresh.

Rathlin Island.—May 26th, continuous flocks going N.W. all day; wind S.E., light. Aug. 22nd, Guillemots leaving island.

Dunree Head.—April, Guillemots arrived. On water all day during month.

Arranmore.—May 22nd, two Guillemots.

Blackrock, Mayo.—June 7th, Guillemots about rock all day. In about a week they began to come up.

Tearaght.—Jan. 28th, Guillemots arrived. Feb. 24th, came on rock. Began to leave about 20th July; all gone by Aug. 5th. Jan. 12th, 1885, one diving. "I think it should be noted in the Annual Report that it is some time during the night that these birds come on the rock this time of the year, and as the morning twilight fades they disappear one after another."

Skelligs.—Feb. 5th, Guillemots first appeared on rock. April 12th, continuous flocks. July 20th, noticed young fledged Guillemots leaving rock. Aug. 5th, all left with one or two exceptions. Dec. 22nd, one Guillemot fishing.

"Little Auk or Rotche."

Tearaght.—Dec. 21st, two. Jan. 9th, one diving among the young Razorbills.

Puffin.

Old Head, Kinsale.—April 20th, commence to build about this date. May 20th, hundreds of Puffins; 28th, ditto.

Dungarvan.—July 5th, 12th, 25th, and 31st, numbers all day in bay feeding.

Coningbeg Light-ship.—April 5th, flocks going S.W.; clear. May 6th and 7th, passed at distance in great flocks, going W. and S.W., wind N. to N.W., light; 12th, several thousands, going W. and S.W.; 18th, 19th, 22nd, and 23rd, "various kinds" in great flocks, ditto; 26th and 27th, some; 29th, 31st, and June 8th, several "Parrot-billed Puffins" about. June 10th, great flocks of Puffins about. Dec. 28th to Jan. 8th, 1885, great flocks of "Puffins" about ship.

Barrels Rock Light-ship.—Flocks of "Puffins" noted on Feb. 6th, 8th, 18th, and 19th, going E. and S.W. "Parrots" noted, April 20th and 24th, May 6th and 8th, going W.

Tuskar Rock.—"Puffins and Sea-parrots" almost always on the rock; scarce this summer.

Howth Baily.—Aug. 19th, numbers in bay after fry.

South Maidens.—Aug. 23rd and 24th, large flocks in vicinity.

Rathlin Island.—Aug. 22nd, Puffins, Guillemots, and Razorbills leaving island.

Innishtrahull.—April 1st, several "Puffins and Sea-parrots" all day round island. May 6th, several Puffins.

Rathlin O'Birne.—July, twenty to one hundred on rocks.

Eagle Island, East.—Oct. 20th, about two hundred "Puffins,"

going S.W.; wind light W. This was the only flock seen in autumn.

Blackrock, Mayo.—Feb. 4th, flocks of "Puffins," going E., wind N., fresh, misty; 27th, "Puffins" about rock. March 9th, flocks, going S.E.; wind high, W. April 17th, flocks of Sea-parrots alighted on rock in great numbers. [In this and in other cases the name "Puffin" would seem to have been applied either to the Guillemot or Razorbill, and Sea-Parrot to the true Puffin.—R. M. B.]

Straw Island.—April 19th, twenty Puffins; remained about lighthouse.

Tearaght.—March 23rd, Sea-parrots arrived at 4 p.m., wind light, clear; 24th, great numbers came on island; 26th, Sea-parrots entirely disappeared until the 29th, when they returned; or perhaps they were new arrivals. They are as plentiful this year as last, and arrived one week earlier. [See general remarks under Clare Island.—R. M. B.] I found a nest with one egg on 11th May, and on 11th June it was hatched, the time occupied being one month. It is in the night-time all the young birds leave their holes and go to the sea, and once there they are no more to be seen. I never saw any of them on the wing or on the water. They never leave the holes until they take their departure, and then they go tumbling and rolling to the sea. There is no trace of this first stage of migration to be observed next morning, except sometimes in their outward course an odd one tumbles into our yards, where they are found. I was roused up one night at 2 a.m. by one trying to get up stairs; it was nearly at the top when I saw it. Puffins left in a great body on Aug. 1st; number on island diminishing until Aug. 15th, when the last was seen.

Valencia.—April 10th, one taken alive.

Skelligs.—March 20th, Puffins first seen on rock. Aug. 5th, Puffins getting scarce during past week; 15th, all have left. Nov. 27th, a few "Puffins," young birds. December, a few young "Puffins" seen.

Razorbill.

Old Head, Kinsale.—April 20th, commence to build about this date.

Dungarvan.—May 29th and 30th, a great number swimming into bay; first general appearance this season. July 4th, 20th, 25th, and 31st, numbers.

Tuskar Rock.—July 24th, one young Razorbill; first this year.

Rathlin Island.—April 6th, flocks resting on the sea. Aug. 22nd, Razorbills leaving island.

Blackrock, Mayo.—April 30th, Razorbills all day; wind fresh, W.

Clare Island.—March 21st, about fifty "Razorbill-puffins"; 25th, Puffins (Razorbills?) in large numbers.

Tearaght.—March 23rd, Razorbills arrived. May 7th, came on island as plentiful as in previous years. About this date (July 31st) both old and young are mostly gone. During the past fortnight both old and young could be heard on the water at night. A few evenings ago I observed a young bird crying on the water; the old one was soon beside it, both going seaward, when the old bird made a little dive, and rose exactly under the young one, so that it was nicely poised on its back. In this way both headed the waves, and were lost in the distance. On the following evenings I kept a good look out, and saw several instances of the same kind; and on no occasion did I observe the young birds to fall off, though the sea was pretty rough. Last seen on Aug. 14th. Sept. 16th, two old and two young appeared, swimming S. Dec. 7th, young Razorbills; wind W.; very strong, high sea. As many as two or three hundred may be seen almost every day, especially in stormy weather. Having procured a specimen of the bird I called a "Mackerel-cock" (see fifth Report, pp. 89 and 128), I find it is the young Razorbill. [Specimen sent.—R. M. B.; shot, 13th, Jan., 1885.] It comes here every winter, and not a single old bird is to be found amongst them; nor one of them among the old birds in summer.

Skelligs.—March 20th, Razorbills first seen on rock. July 20th, noticed young fledged Razorbills leaving rock. Aug. 5th, all left, with one or two exceptions. Nov. 27th, great numbers of the "Black-billed Auk"; noticed flights of them for the past fortnight, flying S., mostly in the afternoon. They left on 2nd March, 1885, except one or two, seen on 16th inst. They only come close to the rock in wild weather. In my former report I called this bird the Razorbill; but it answers the description of the Black-billed Auk, in the 'Dictionary of British Birds.' [Doubtless the young Razorbill, which was erroneously regarded

as a species under the title of "Black-billed Auk" by Colonel Montagu.—R. M. B.] December, a great number of "Black-billed Auks" fishing.

CORMORANT.

Dungarvan.—July 31st, several.

Coningbeg Light-ship.—Dec. 11th, ten. Rarely seen here; 13th and 27th, one. Jan. 8th, 1885, two.

Barrels Rock Light-ship.—Sept. 17th, seven.

Tuskar Rock.—Aug. 21st, three; the first this season.

Arklow West Light-ship.—May 24th, one Cormorant about ship.

Copeland Island.—Jan. 20th, numbers of Cormorants. From September to April they are plentiful.

South Maidens.—Sept. 6th, fifteen at noon, going S.W.; wind S.W., fresh. Oct. 17th, a great flock, going S. November, Cormorants seen daily.

Rathlin Island.—Aug. 27th, five, going N.E.; wind S., light. Dec. 25th, six, going W.; 26th, two Green Cormorants on the rocks.

Innishtrahull.—July 29th, two. They breed on a rock called "The Stook," near mainland.

Tory Island.—Feb. 11th, one Cormorant, going N.E.

Arranmore.—July 12th, two; remain here. Jan. 9th, four, going S.W.

Rathlin O'Birne.—July, two to ten, always about island.

Broadhaven.—Aug. 31st, Cormorants are here all the year round. Nov. 12th, about two dozen.

Blackrock, Mayo.—May 9th, Cormorants all day; wind S., fresh.

Eagle Island, East.—Oct. 20th, two, all day fishing around island.

Blacksod.—Some Cormorants during October.

Clare Island.—May 30th, observed a number of Cormorants. Sept. 1st, a number. They breed in holes in the cliffs.

Arran Island, North.—Oct. 13th, five, going N.W.

Straw Island.—Feb. 10th, four; very few this month. March 18th, six. April 11th, three. Oct. 30th, ten daily, fishing.

Tearaght Rock.—Feb. 14th, six or seven round rock; seldom

so many; one or two may be seen occasionally all the year. Sept. 4th, six, going W.; usual number on island, two.

Valencia.—April 5th, 14th, 15th, May 10th, and June 15th, two to four. During Sept., Oct., Nov., and Dec., four or five at intervals.

Dursey Island.—March 28th, eight. April 29th, two.

Gannet.

Fastnet.—During last half of July a few Gannets morning and evening.

Old Head, Kinsale.—April 10th, Gannets going S. May 10th, 20th, 28th, and June 26th, hundreds going S. Oct. 12th, five going S. Dec. 27th, three going S. Never saw less Gannets in autumn.

Dungarvan.—April 7th, one; the only one seen for months. July 23rd, 27th, and Aug. 20th, one. Sept. 14th, a very dark "Solan Goose" (young).

Coningbeg Light-ship.— Two to eight noted during April at intervals. Flocks on May 11th, 24th to 27th. On May 24th, one dark one. June 1st, five ditto. Great numbers in August. During September several daily going E. and W.; generally young birds. Flocks on Oct. 14th and 16th. Dec. 12th and 30th, several; and great flocks from 3rd to 8th Jan., 1885, about ship.

Barrels Rock Light-ship. — Small flocks, Feb. 18th, 19th, March 21st. Large, April 17th. Flocks also on April 19th, 20th, 23rd, May 6th, 8th, and 23rd, generally going W. or S.W. Gannets noted in small numbers from Sept. 13th to Nov. 16th, in almost every instance going E., irrespective of wind or weather.

Arklow South Light-ship. — April 15th to 25th, occasional Gannets going N.E. May 11th to July 18th, two to ten, and now and then a flock; direction of flight, N.E. or S.W. From the middle of July to Oct. 4th, a few Gannets at intervals, generally going S.W. On July 28th, flocks going N.E. Sept. 9th, flocks all day after fish.

Arklow North Light-ship. — Gannets noted on Feb. 29th. March 15th, great quantities going N.E.; 16th, six; 17th, twelve; 21st, flocks; 23rd, ditto. A few on April 2nd, 8th, and 9th; great flocks on 11th, flying N. and S.; 15th, several; 29th, flocks; 30th, six. May 1st and 3rd, 8th, and June 20th, a few.

Flocks on May 7th going N.W. Direction of flight in most of foregoing cases N. or N.E., apparently independent of the direction or force of wind. Oct. 5th, three going N.E.

Kish Light-ship.—April 7th, flocks going S.W.; 21st, six going N.E. May 17th, great flocks going S.W.; 28th, four going S.W. June 7th, flocks going S.W.; 26th, three going S. Wind variable in direction and force.

Howth Baily.—Aug. 19th, large numbers in bay after fry.

Rockabill.—May 8th, Gannets all day.

Copeland Island.—Jan. 20th, numbers of Gannets and Gulls feeding.

South Maidens.—Gannets feeding in locality during August and September. Oct. 9th, Gannets feeding in vicinity during past few days (see also under General Remarks).

Rathlin Island.—Flocks noted March 22nd, 26th, 30th, April 5th, May 5th; in every case going W. Wind variable in direction and force. Sept. 6th, Gannets all day going W.; wind light S.E.

Innishtrahull.—March 28th, five Gannets; "the first this season." April 1st, several fishing all day. May 6th, three; 15th, Gannets about.

Tory Island.—Feb. 5th, two going W.; 11th, two ditto; 19th, two about.

Arranmore.—April 4th, flocks of four to six going N.

Rathlin O'Birne.—Gannets always seen; two to one hundred.

Broadhaven.—June 30th, a few Gannets going S.

Eagle Island, East. — Sept. 19th, about twenty, all day; 23rd, ditto; 27th, forty. Oct. 2nd, one hundred; 12th, two hundred; 20th, fifty going S.W.

Blackrock, Mayo. — Feb. 8th, nine going W.; wind S.E., strong. March 16th, thirteen going S.W. July 20th, thirty or forty. Dec. 5th, three; 25th to Jan. 13th, 1885, one to five.

Blacksod.—Oct. 21st, four. Dec. 23rd and 27th, Gannets seen.

Clare Island.—Nov. 6th, two large Gannets going W.

Slyne Head, North.—Oct. 11th, flock of Gannets seen.

Arran Island. North. — Aug. 10th, 12th, 14th, and 26th, several. Oct. 1st, two going N.W.; 13th, five going N.W.

Straw Island.—"The Gannet is especially remarked for its almost total absence." March 18th, two. April 7th, two. Oct. 12th, four going S.

Tearaght.—Oct. 13th, two hundred and ten passed S.W. between 8 and 9 a.m. Great numbers had passed before I commenced and after I left off counting. All young birds, flying low and in flocks of from thirty to two or three; calm, misty.

Skelligs.—Oct. 18th, Gannets for the last few days wheeling in flocks, and seeming inclined to take a southerly direction; 20th, twenty going S. *None perched on the Lesser Skellig after this date.*

Dursey Island.—March 4th, 7th, and April 7th, some going N.W.

Terns.

Old Head, Kinsale.—May 20th, several.

Coningbeg Light-ship.—May 28th, several "Pirs or Skirs" about ship. June 3rd to the 10th, ditto.

Copeland Island.—May 20th, large numbers heard arriving on Mew Island during the night; wind W., light. They arrive to breed in May, and leave late in August or early in September.

Oyster Island, North.—April 17th, four Terns hovering round.

Gulls.

Fastnet.—April 12th to 25th, great quantity feeding at rock. May 7th, two Royal Gulls.

Old Head, Kinsale.—May 20th, hundreds of Kittiwakes, "small Gulls," Skua Gulls, and Royal Gulls; also on 28th. Oct. 20th, some hundreds going S.; wind W., light.

Dungarvan.—June 1st, a few Kittiwakes, the first seen this season; 3rd, three Black-backed. July 13th, numbers of Black-headed; 31st, numbers of Gulls. Aug. 16th, great numbers of small Black-headed Gulls and three Skuas (seldom seen here) chasing Gulls. Sept. 2nd, four Black-backed Gulls.

Coningbeg Light-ship.—May 8th, 9th, 20th, 21st, and 25th, several about ship daily. June 10th, great flocks; great quantities in August; only a few in September. Great flocks, Black-backed and others, Dec. 28th to Jan. 8th, 1885, about ship.

Barrels Rock Light-ship.—May 6th, flocks of Gulls. Sept. 10th, large flocks. Nov. 27th, large flocks after fish.

Tuskar Rock.—May 28th, hundreds of Skua Gulls; 31st, ditto, on rock, went S.; noted also on June 7th, 8th, and 22nd.

Kish Light-ship.—April 8th, grey Gulls about ship; 27th,

continuous flocks of "Boatswains" going N.E.; wind E. May 17th and 25th, continuous flocks going S.W. and N.E., wind S.W. and S.E.; 27th, continuous flocks of Boatswains going S.W., wind S.E. June 7th, flocks going S.W., wind N.E.; 29th and 30th, flocks.

Howth Baily.—Aug. 19th, large numbers in bay after fry.

Rockabill.—July 1st, Sea Gulls about; 5th, Royal Gulls all day.

Copeland Island.—Jan. 20th, number of Gannets and Gulls feeding.

South Maidens.—Sea Gulls always to be seen in immediate vicinity of light. Aug. 30th, Grey and Royal fishing.

Rathlin Island.—March 29th, flocks of Kittiwakes all day on water. May 22nd, two thousand Kittiwakes at noon on water. Sept. 15th, thousands of Kittiwakes on the water; 25th, thousands of Gulls.

Innishtrahull.—April 1st, several Gulls about island all day. May 15th, Gulls and a pair of Royal Gulls.

Dunree Head.—March 3rd, 7th, 10th, and 20th, flock of Gulls.

Tory Island.—Jan. 21st, four. Feb. 19th, four.

Arranmore.—July 24th, large quantities of Gulls and young ones on rocks. Dec. 8th, Skua Gull seen.

Rathlin O'Birne. — Six to one hundred frequent island; six to twelve breed. The Royal Gull is always here.

Killybegs.—Sea Gulls all the year.

Oyster Island, North. — Sea Gulls are about all the year. "Some appear to have taken up their quarters fixedly."

Eagle Island, East. — Sept. 11th, two to three hundred Gulls (Grey and Kittiwake) all day after fish. Nov. 3rd, two Grey Gulls. Very few Gulls this autumn.

Blackrock, Mayo.—Jan. 20th, seven Royal Gulls going S.E. April 30th, small Gulls all day; they breed here from this date to the middle of August. Feb. 27th, Gulls. July 9th, seven Royal Gulls hovering. Sept. 23rd, five Royal Gulls. Oct. 7th, nine small Gulls; 11th, five "cream-coloured Gulls," 7.30 a.m., going W., wind strong N., squally. [These "cream-coloured Gulls" of Blackrock, Mayo, were seen by the previous light-keeper, Mr. Martin Kennedy, in August, 1881, and during April and May, 1882. He calls them "North-American or cream-coloured Gulls," and states that more than one or two were

never seen."—3rd Rep., p. 86; and 4th Rep., p. 104, R. M. B.]. Dec. 12th, five Royal Gulls; 22nd, large flocks of Gulls on the water. Jan. 9th, 1885, six small Gulls; 11th, five Royal Gulls.

Clare Island.—March 6th, Sea Gulls and Kittiwakes; 25th, large numbers; 30th, thousands. Sept. 25th, two large Royal Gulls.

Slyne Head, North.—Oct. 11th, Gulls, about ten to twenty.

Arran Island, North.—Oct. 2nd, large flock of Gulls.

Straw Island.—Feb. 20th, twenty Gulls. March 27th, two Royal Gulls. April 28th, four large white (Herring) Gulls going N., wind light, W.; 30th, two Black-headed Gulls. Nov. 4th, four large grey Gulls. Dec. 28th, four Royal Gulls.

Tearaght.—The Kittiwakes commenced to build this year on April 1st. The young birds were seen flying about the last week in July. None of the young birds are to be seen during the winter; but on Feb. 7th a few were observed among the old birds. They left shortly afterwards, and were not to be seen until June 24th, when there were about one hundred on the rock with the old birds: they remained about a week. The Royal Gulls do not breed here. Aug. 14th, Herring Gull (young), about half a dozen; still about island, Jan. 15th, 1885. Jan. 5th, Kittiwakes (young), thirty or forty, with other Gulls. None of these young Kittiwakes were seen since they left their nests on Sept. 20th. Some of the black has disappeared.

Valencia.—A few "Royal, Common, and Skua" Gulls at intervals during April, May, and June. Skua Gulls, Sept. 2nd, Oct. 24th. Dec. 24th and 25th, two to fifteen Royal Gulls. Nov. 18th and 20th, a few.

Skelligs.—March 26th, Kittiwakes first seen on rock. Kittiwakes leaving from the 15th to the 28th August. December, great numbers of Herring Gulls and young Kittiwakes and a few Black-backed Gulls.

Dursey Island.—Large flock, March 15th and April 30th. March 9th, four Royal Gulls.

Stormy Petrel.

Coningbeg Light-ship.—May 8th, 9th, and 13th, one to two about ship; 14th to 17th, several during day, foggy and hazy, wind moderate; 24th, one killed striking. June 2nd, 5th, and

6th, several about ship; clear, wind light. One to nine noted from 22nd August to Sept. 8th. Several almost daily at end of September, and a few on Oct. 9th and 10th; all flying about ship.

Barrels Rock Light-ship.—Sept. 13th, seven; 15th, two; all going E.

Innishtrahull.—Aug. 18th, one Petrel struck at 11 p.m., not killed. The first seen by me here; wind S.W., fresh, gloomy, rain.

Arranmore.—Dec. 19th, one Stormy Petrel shot at station.

Clare Island.—Aug. 17th, a "Mother Carey's Chicken" caught fluttering against lantern at midnight; wind light, gloomy.

Tearaght.—May 18th, Stormy Petrels arrived on this date, or perhaps previous to it; plentiful on 23rd. Eggs taken on June 19th. Will lay the third egg if the others are taken. They are very plentiful this year, but are never seen in the day-time, but at night continually striking the glass. They are not very welcome visitors, owing to the blotches of oil they eject on the glass and balcony. They are so plentiful skimming about that they often come close to a person's ears. They are to be heard in every bank, under every rock, and in every crevice. On dark calm nights the air as well as the rocks and banks is filled with their music; their hatching is not over until August is well advanced. Sept. 15th, one (young) caught on balcony. Oct. 11th, one going S.W.; wind N., showery. Nov. 15th, one on lantern.

Skelligs.—May 25th, heard the Stormy Petrel under the stones to-day for the first time this year. June 2nd, several Stormy Petrels about lantern; drizzling rain. During foggy and rainy nights in July and August Petrels were about lantern, but none killed striking. Sept. 6th, one seen in day-time. Oct. 17th, Petrels last seen on this date; a few (young birds) kept flying about light on misty nights to Oct. 16th.

Manx Shearwater.

Old Head, Kinsale.—May 20th, several.

Dungarvan.—July 4th and 5th, flocks about bay feeding; 20th, 25th, and 31st, thousands in search of fry.

Coningbeg Light-ship.—April 4th, four; 19th, 20th, 26th, one to six about ship. On 20th, one struck and was disabled at 9 p.m., overcast.

Barrels Rock Light-ship.—April 12th, 14th, 19th, 20th, 23rd, flocks are entered flying in various directions. Sept. 2nd, flocks.

Arklow North Light-ship. — May 3rd, "Mackerel Cocks" going N. at noon; 8th, ditto, flying about, wind S.W., strong.

South Maidens.—Sept. 11th, three "Shearwaters" fishing in vicinity the last few weeks.

Rathlin Island.—March 17th, Shearwaters heard at night. Aug. 20th, one Shearwater killed striking.

Arranmore.—March 29th, two "Manx Shearwaters, called night-birds," flew into yard at night; taken and stuffed. April 19th, twenty all day. Quantities "at rocks" building.

Blackrock, Mayo.—June 10th, Manx Shearwaters at midnight, one struck, wind light S.W., clear; 14th, three struck at 1 a.m., wind N.W., light, overcast; one caught. Aug. 9th, Manx Shearwaters all night; several struck, two caught; wind S., light, misty.

Tearaght.—April 10th, Manx Shearwaters first heard. Left about July 15th. Oct. 10th, two near rocks on N. side.

Skelligs.—March 1st, Manx Shearwaters first heard. Shearwaters heard up to Aug. 29th; noticed them getting scarce about the 12th.

Birds not identified.

Coningbeg Light-ship.—Nov. 14th, one "Schinz's Sandpiper" struck, 10 p.m., disabled; wind E.S.E., light, gloomy. "The size, colour, and length, according to the description in vol. vi." —Morris's 'British Birds.'

Tuskar Rock.—May 25th, "a yeliow bird, black head with stripes, shape and fly of a Wagtail," on rock at 7 p.m.; wind light S.E., overcast, misty.

Arklow North Light-ship.—Dec. 27th, a large flock of "Sally-pickers" going S.W. at 10 a.m.; wind light S. ["Sally-pickers" have hitherto been placed under Willow Wren or Chiffchaff, but in this case it is not easy to suggest the species. —R. M. B.]

South Maidens.—Jan. 14th, "one golden Robin" struck lantern, 10 p.m., not injured; wind S.W., fresh, overcast, gloomy.

Innishtrahull.—Aug. 11th, "a sea-bird caught; colour dirty grey, with some white; tail also white, tipped with black. Like a Curlew in shape, and a long bill."

Killybegs.—Dec. 27th, one "Blackcap" on wall; wind S.W., light. [Not *Sylvia atricapilla.*—R. M. B.]

Blackrock, Mayo.—Jan. 2nd, 1885, nine "mall divers" fishing about rock.

Clare Island.—April 4th, "a very handsome Crow, 11 a.m. All black on back, with white breast, and had a bill resembling a common Crow; wind E., light."

APPENDIX.

Mr. Gurney has received a batch of wings from the Leman and Ower L.V. off Cromer, taken from birds evidently killed last autumn; unfortunately they are not dated, so that much of their value as a record of migration is lost. They include Willow Wren, Wheatear, Snipe, Jack Snipe, Ring Dotterel, Robin, Sedge Warbler, Redstart, Fieldfare (three), Thrush, Blackbird, Titlark (five), Sky Lark, Chaffinch (three), Great Tit, Goldcrest, Reed Bunting, Wood Pigeon, Woodcock (two), Starling, Swallow, Martin, Sanderling, Tree Sparrow.

PIED FLYCATCHER.—With reference to Mr. J. Harvie Brown's remarks (see foot-note, p. 100 of Report) on the arrival of Pied Flycatchers at the Isle of May and Pentland Skerries in the first week in May, 1885, it is interesting to learn that the same species is also reported in great numbers from Flamborough and Spurn at the same period, *viz.*, the first week in May; it was also observed in Norfolk on the 9th. At Flamborough, as Mr. Bailey informed me, a great many came in on the 3rd, with a N.E. wind, and in company with male Redstarts. At Spurn, Mr. P. W. Lawton states that it has been more numerous than he ever before knew it. ('Naturalist,' June 1885, p. 250, foot-note),

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ERRATUM.—Page 71, line 29, for "September 30th," read "September 18th."

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