

other points of structure. Not having succeeded, however, in detecting vibratory cilia upon their surface, I rather incline to consider them as corresponding to the tentacular filaments which are found at the extreme edge of the cloak in all our British *Patellæ* as well as in *Lottia testudinalis*, though entirely wanting in this species, to which the term "*marginē integerrima**" may therefore very appropriately be applied.

In tracing this species through all its stages, I find that in its very young state the red markings of the shell are not in regular lines, but have a tessellated or chained appearance exactly similar to those of Mr. Forbes's *Lottia pulchella*; in fact, I cannot perceive any difference between my shells and specimens of *Lottia pulchella* kindly presented to me by Mr. Forbes.

That the specimens collected on this coast are really the young of the larger species I can have no doubt, having observed it in all stages of growth, and traced the transition of the chained markings of the centre until they become linear at the edges of the half-grown shells. In more advanced stages of growth, however, the apex becomes thickened and the early markings obliterated.

From what has been stated, then, I think I am warranted in coming to the conclusion, that this species is a *Lottia* of Gray (*Patelloidea*, Quoy); that *L. pulchella* of Forbes is the young state of the same; and, after an examination of the figures and description in the 'Zoologia Danica,' I must also add, that I consider it to be the true *Patella virginea* of Muller†.

Newcastle, Dec. 9, 1841.

L.—*The Birds of Ireland.* By WM. THOMPSON, Esq., Vice-Pres. Nat. Hist. Society of Belfast.

[Continued from p. 360.]

No. 9.—*Fringillidæ*; *Sturnidæ*; *Corvidæ*.

THE BULLFINCH, *Pyrrhula vulgaris*, Temm., is one of those birds which is distributed over the island, but is at the same time, in one sense, a local species. Mr. Selby observes that it is "common in all the wooded districts of these islands,"—but

* See Muller's description of *Patella virginea*.

† *Patella tessellata*, Mull., appears to me to be a variety of *Lottia testudinalis*, which sometimes approaches very near in appearance to *L. virginea*. The tessellated markings, the distinct longitudinal striæ, and the brown impression inside the shell, are all characters of the former species, and constitute the principal difference between them. The cloak of *L. testudinalis* is also (as I have stated above) fringed with filaments at the external margin, while that of *L. virginea* is entire.

this will not apply to Ireland. In many of the *artificially* wooded districts, it is either not to be found at all, or is only known as an occasional visitant; but where any extent of indigenous or natural wood remains, and there is sufficient growth of the more shrubby trees, the bullfinch may be looked for almost with certainty. In some picturesque and extensive glens in the county of Antrim and near Belfast, this bird was common so long as the hazel and holly of natural growth maintained their ground, but as these were swept away, the bullfinch deserted such localities as abodes, and "few and far between" are now even its temporary visits. In the neighbouring county of Down, this bird finds a home in sequestered situations where the hazel predominates, and in this shrubby tree commonly nestles. In "nature's wild domain," the bullfinch looks eminently beautiful, and can be admired without the alloy associated with its appearance in the garden or the orchard, where it proves so destructive. Its call-note and song have generally met with little admiration from the historians of the species, but being sweetly plaintive, are to me extremely pleasing.

Small seeds were the only food in the stomachs of a few bullfinches which came under my observation in winter.

Mr. Selby (in his 'Illustrations of British Ornithology' and the 'Naturalist') and Mr. Knapp, give very interesting accounts of the bullfinch from personal observation, and particularly with reference to the plants which it attacks.

PINE BULLFINCH, *Pyrrhula Eucleator*, Temm.—See *Annals*, vol. vii. p. 478.

CROSSBILL, *Loxia curvirostra*, Linn.—This bird has long been known as an occasional visitant to Ireland. In Harris's 'History of the County of Down' (1774), it is remarked of crossbills, that "many of them were seen at Waringstown in 1707." Smith, in his 'History of Cork' (1749), observes, that "these birds have been seen in this county, but are rare." Rutt, in his 'Natural History of Dublin' (1772), says of the crossbill—"it has been seen at Ireland's Eye, and we have had several flights of them to the counties of Wicklow and Dublin, particularly in 1714." Mr. R. Ball informs me, that during his residence at Youghal, this species was known to him as occurring but once in the south, upwards of thirty years ago, when it committed great devastation in the orchards: its appearance in the south of the county of Cork, about twenty-nine or thirty years ago, has been reported to me by others, who state that it was looked upon as an extraordinary rarity—probably the same flight of birds is alluded to by all. Mr. Ensor, in an article contributed to the 6th vol. of the 'Magazine of Natural

History' (p. 81), and dated Ardress, county Armagh, remarks—"there was a flight of these birds in my plantations for weeks in 1813 or 1814*." In 1821, when crossbills were so abundant in Scotland, they visited Ireland also, and some were killed about Belfast—here a venerable friend has from his early years known them as occasional winter visitants, and has captured them when feeding, by means of fishing-rods smeared with bird-lime.

Since my own attention has been given to the subject, the cross-bill is recorded either in my notes or otherwise as occurring at the following times and places :—"in the county of Wicklow, about December 1828" (Dr. J. D. Marshall); and on the 26th of this month, when an example was obtained near Belfast; it was on the top of a larch-fir, apparently feeding on the cones when fired at, and being only wounded, clung so tenaciously to the branch that it was with difficulty got down; in the winter of this same year the species was shot in the county of Tyrone or Armagh—near Belfast in the winter of 1829–30; in the month of January in this latter year, specimens were procured in the county of Wicklow;—Dr. Burkitt, of Waterford, writes to me that "crossbills visited us in 1831, and were said to be very destructive to orchards near the city;"—near Belfast in July 1833, when several in red plumage were obtained;—December 22, 1835, one was shot at Crumlin, county of Antrim, and about the same day another was killed when feeding in company with a few others in larch-firs near Lurgan, county of Armagh;—about the 1st of February 1836, two, shot near Tanderagee in the last-named county, came under my inspection; the point of the lower mandible extended beyond the profile of the upper in one of them; their stomachs were filled with larch-seed: a specimen was shot near Belfast in the same month. When visiting Tollymore Park, county of Down, this year (1836), in the month of August, I was informed by the intelligent gamekeeper that a pair of crossbills had bred there in the summer just then passed; he saw them with their three young ones: although he had before observed this species here in the winter, he had not done so in summer until that time;—July 1837, I saw two examples in Dublin which were shot in the neighbourhood of the Dargle, county of Wicklow, at the end of June, when many more were in company with them: they attracted attention by their noise, which was described to resemble that produced by the breaking of sticks, and the observer on looking up saw the birds hanging to the upper branches of fir-trees engaged in opening the cones for the seed.—In the winter of 1837–38, the following note of specimens which were sent to Dublin to be preserved was obligingly made for me by T. W. Warren, Esq., and H. H. Dombrain, Esq.: "Oct. 20. Numbers seen and some killed in the neighbourhood of Booterstown,

* *Loxia coccothraustes* is the scientific name applied to the bird referred to, but from the observation that it is significantly called "cross-beak," it seems to me warrantable to conclude that *Loxia curvirostra* is meant.

county Dublin.—Feb. 3, 1838. Three shot in the county of Carlow.—Feb. 5. Seven from county of Kildare, and 26th of same month a similar number were sent from the county of Carlow to Dublin;—about the metropolis itself, specimens were occasionally shot from October to March.” At the end of December 1837, I received from Portglenone, county of Antrim, two specimens, which with a couple more were shot out of a flock of about twelve that made known their presence by the noise produced in opening the cones of the “Scotch-fir” (*Pinus sylvestris*), in a grove of which trees they were feeding. On the 9th of January, and again on the 20th of February, two of these birds were killed in a fir-grove near Hillsborough Park, county of Down; on the former occasion four were seen, on the latter, the two only.—At Finnebrogue, near Downpatrick, one was obtained last winter; and the Rev. T. Knox, writing from Toomavara, in the county of Tipperary, remarked, that he had heard of flocks being seen in the west of Ireland at the same period. When at Tollymore Park in June 1838, the gamekeeper before alluded to informed me that in the preceding winter crossbills were abundant there, as many as fifty being sometimes seen in a flock. He pointed out a larch-fir upon which he and a gentleman visiting the park saw fourteen or fifteen engaged in extracting the seed, some of the birds being at the time but a few yards above the spectators’ heads, and sending the cones to the ground in numbers;—like others who have witnessed it, he remarks that they are generally very tame when feeding. He has seen them picking at the cones of the various species of firs and pines in the park, and particularizes the spruce-fir as one on which they were so employed:—since 1836 the crossbill has not been known to breed there*.

In the spring of 1838, as communicated to me by the Rev. B. J. Clarke, seven of these birds were shot on the Spire Hill, near Portarlington, Queen’s-county;—about Mountmellick, in that county, they were abundant some years ago, and proved very destructive to the apples. Dr. Farran, of Feltrim, near Dublin, has assured me that crossbills bred at Delgany and the Vale of Ovoca, in the county of Wicklow, in 1838; and in the same year they are said to have bred in the county of Meath, but unfortunately no particulars are available. A crossbill shot near the town of Antrim on the 20th of January 1839 came under my observation. In one instance only have any fragments of stone occurred to me in the stomach of this species. A bird-preserver in Wexford, in a letter dated November 1841,

* My informant states, that about twenty years ago (now 1838) crossbills came “in thousands” to the plantations at Dumfries House, in Ayrshire, the seat of the Marquis of Bute, “and did not leave a cone upon the firs.” The year 1821 is probably alluded to, as these birds are reported to have been then particularly numerous in other parts of Scotland and some parts of England. Mr. Macgillivray (‘British Birds,’ vol. i. p. 425) gives a most lively and graphic account of a flock of some hundreds he met with in the east of Scotland feeding upon the fruit or seed of the mountain-ash (*Pyrus aucuparia*).

kindly communicated that "in the last shooting-season" several crossbills were killed in that neighbourhood.

Mr. Robert Davis, jun., of Clonmel, a very zealous and observant naturalist, replied in February 1837 to a query respecting the occurrence of crossbills in that part of the country, that he had not heard of them since their appearance in great numbers about the year 1802. I was afterwards informed by this gentleman, that "about the 18th of January 1838, a flock of these birds appeared at Ballibrado, near Cahir, and five of them were killed; they were very tame, and were observed to feed like a parrot, holding the fir-cones in one claw." He remarks again, that "on the 16th of August the same year, four crossbills were sent me from Ballibrado, where they still continue in considerable numbers. I cannot hear of their occurrence anywhere else, except in the neighbouring demesne of Kilcommon"---"two more [he continues, writing on the 12th of September] were sent me since, but like the others were much damaged, as, in consequence of their tameness, the person who shot them fired from too short a distance. They appeared to be as follows—adult males; males passing from the red state into the adult; young males just getting a few red feathers; and I suppose females, in the brownish-gray state: from what I hear they would seem to be moulting fast." On the 11th of January 1839, Mr. Davis again observes—"Crossbills are still to be seen at Ballibrado, where they have been all winter, and when last noticed, about a week since, appeared to have paired. I am rather of opinion that they bred here last year, but it does not amount to more than a surmise grounded upon their appearance so early, accompanied by such a number of young, and principally from the destruction of the cones of the spruce-fir having been noticed throughout the year." On May 18, 1839, my correspondent, in transmitting the skins of two specimens for my examination, continues—"from ten to twenty crossbills have remained all the winter, and up to the present time at Ballibrado, but, though some search was made, no nest was discovered. About five or six weeks since, two or more clutches of young birds were seen accompanying the old ones who were observed feeding them. The young bird I send was shot in the act of taking food from an old cock; it was sent me five weeks ago [early in April]; the other bird sent varies a little in colour from most specimens, and was shot about three weeks before that time. The young one had every appearance of a nestling, feet soft and weak, bill not strong, and a great number of the large feathers not fully produced*." On July 18th the same year, Mr. Davis observed that the "crossbills had not been noticed in their usual haunts, nor, indeed, anywhere for two months back."

* This bird is of adult size: the head, back, and rump, or whole upper plumage, is yellowish green, with a dark olive centre to each feather, this dark marking occupying more of the feathers anteriorly than towards the tail; the entire under plumage is yellowish-white, with an olive-brown streak down the centre of each feather; tail and larger wing-feathers dark brown, with the outer margin yellowish-green.—W. T.

Notes on the plumage, and sometimes full descriptions from the recent specimens which came under my examination, were drawn up ; but it is sufficient to observe here, that they were in every state from that put on at the first moult to maturity ; by far the greater number were in the bright red plumage : one only (that already noticed) displayed the markings of the young previous to the first moult.

I have not had the gratification of seeing crossbills in a wild state in Ireland ; but early in September 1837, my attention was directed to them by Mr. Selby and Sir Wm. Jardine as they were on wing from one plantation to another in the demesne at Twizell and at Chillingham Park, Northumberland.

Authors generally report the crossbill as arriving in Great Britain in June, but it has mostly been a late autumnal or a winter visitant to Ireland, leaving the country again early in the spring—like other birds of passage. Mr. Yarrell's remark with reference to England, that crossbills "were more abundant during the greater part of 1836, 1837, and 1838 than was known for some years before"—might it not be said, than was ever known before in three successive years?—applies to Ireland also, as shown in the preceding notes. In endeavouring to account for the cause of the more frequent visits of crossbills to the British Islands of late years, we should perhaps know in the first place if any change has occurred in their metropolis or chief quarter whence they come ; but, ignorant of this, we can only look at home and see if there be any attraction for them now that the country was deficient in before. Sir Wm. Jardine observes : "in the south of Scotland at least, where an immense extent of young pine timber has been planted within thirty years, the crossbill has undoubtedly become more common, and we know now remains through the year*." In Ireland likewise, plantations including the *Coniferæ*, but above all, the larch, have greatly increased within the same period, and may be the means of prolonging the stay of crossbills, or inducing them to remain occasionally throughout the year. And as somewhat corroboratory of this, it may be noticed, that plentiful as these birds were of late years, we have heard but little of damage done to orchards by them as in earlier times, the seed of the *Coniferæ* having generally afforded abundance of food. Still, I cannot but think that the primary cause of their more frequent migrations hither must be looked for in their aboriginal abode. A friend of excellent judgement to whom this idea was mentioned, is rather inclined to consider crossbills as a wandering tribe having no proper home, but who pitch their tent and take up their

abode at a place just so long as it suits them, without contemplating a return to any particular region.

Bewick and Yarrell, in their respective histories of British birds, treat us with delightful and copious accounts of the appearance of crossbills in England in the olden time, when, like a more potent enemy—"they were attacked with slings and crossbows," valiantly "never thinking of flying off till some of them, stricken by stones or apples, or leaden bullets, fell dead from the trees." The grand point of view in which birds were considered at that period (1593) is not omitted to be mentioned, as in one account it is stated that "their flesh was sufficiently savoury and delicate," and in the other, that "they were very good meate*."

WHITE-WINGED CROSSBILL, *Loxia leucoptera*, Gmel.—The only record of the occurrence of this bird in Ireland is the following, communicated by Mr. Templeton to his friend Mr. Dawson Turner, and published in the 'Linnæan Transactions'—"Shot at Greenville, near Belfast, January 11, 1802." This is the first notice of the species as a visitant to the British Islands. Mr. Templeton's drawing represents the female bird as described by C. L. Bonaparte.†

* *Loxia pytiopsittacus* is included in Templeton's 'Catalogue of Irish Birds,' from the supposed occurrence of the species in one instance. A coloured drawing of the specimen, of natural size, was fortunately made by that accomplished naturalist. It represents the *L. curvirostra* with the point of the lower mandible not reaching beyond the profile of the upper. At the foot of the drawing, *L. pytiopsittacus* is followed by a note of doubt, which does not appear in the printed catalogue.

† It is remarked by Rennie of some species of our small birds, that its nests about a cotton-mill in Ayrshire were found to be lined with cotton. At Whitehouse, near Belfast, (as I have been informed by James Grimshaw, jun., Esq.,) the chaffinches and common sparrows which built around two cotton-mills always made use of cotton in the construction of their nests. The mills were a quarter of a mile distant from each other, and all the nests of these birds erected in the intervening plantations, as well as in the vicinity of the mills, exhibited the foreign product, not only as lining, but more or less of it on the outside. On remarking to my informant that its conspicuous colour would betray the presence of the nest, and not accord with the theory that birds assimilate the outward appearance to surrounding objects, he stated, that on the contrary, the use of the cotton in that locality might rather be considered as rendering the nest more difficult of detection, the road-side hedges and neighbouring trees being always dotted with tufts of it, owing to the constant passing of the workers from the one mill to the other.

The same gentleman mentions, that when lately (Nov. 1841) in Manchester, a lady of his acquaintance there told him of her having last summer lost a piece of very valuable old lace which was left out to dry, and that on the spouts being cleared of sparrows' nests, the lace was discovered uninjured as partly lining one of them.

A note upon a canary-finch may here be given.—Sept. 9, 1833. A bird

STARLING, *Sturnus vulgaris*, Linn.—Montagu remarks of this species, that “many stay with us the whole year; but the vast flocks that are seen in *severe winters* probably migrate to this country [England] in search of food, and return northward in the spring. We have observed continued flights of these birds going westward into Devonshire and Cornwall in hard weather, and their return eastward as soon as the frost breaks up.” Mr. Knapp observes that—“Towards autumn the broods unite and form large flocks; but those prodigious flights with which in *some particular years* we are visited, especially in parts of those districts formerly called the ‘fen-counties,’ are *probably* an accumulation from other countries.” The Bishop of Norwich, in his ‘Familiar History of Birds,’ gives as his opinion, “that they are partially migratory, quitting one part of the kingdom for another;” and Sir Wm. Jardine states, that “in many parts of Scotland where they do not breed, they are migratory, appearing in autumn and spring.”

In that portion of the north of Ireland with which I am best acquainted, there is nothing irregular in the migration of starlings; they await not any severity of weather; and although they may occasionally change their quarters when within the island, yet do they of all our birds present the clearest evidence of migration, as annually they are observed for several weeks to pour into Ireland from the north, and wing their way southward*. To myself they have frequently so appeared, but I prefer giving the more full and satisfactory testimony of trustworthy and intelligent “shore-shooters,” three of whom being consulted, agree upon the subject. They state that the general autumnal migration of stares or stars† (as they are sometimes called) commences towards the middle or end of September, according to the season, and continues daily for about six or eight weeks‡. When the weather is moderate,

of this species which escaped from its cage at Cromac, the residence of Mr. Garrett, near Belfast, yesterday morning flew away and was not seen again until this morning, when it appeared at an early hour, and made known its presence by tapping at one of the windows with its bill before any of the inmates were up. On a cage being presented, the bird eagerly flew into it.

* It is now many years since Mr. Templeton, in his valuable ‘Naturalists’ Report’ (published in the Belfast Magazine), called attention to the regular migration of starlings into Ireland.

† Similar abbreviations are in common use among the dealers in birds (whether living or dead) in the north of Ireland; thus, in gray-linnet, chaffinch, green-linnet, &c. an economy of words is practised, and the first syllable alone is sufficient to indicate the species. In the same manner I have in Perthshire heard the *hooded* or gray-crow called simply *huddy*.

‡ So early as the middle of July, a flock was once observed flying south-

flocks consisting of from half-a-dozen to two hundred individuals are seen every morning coming from the north-east, passing over a point of land where a river enters Belfast Bay about a mile from the town, and continuing in the same course until lost to view. They are generally seen only for one and a half or two hours—from eight to ten o'clock A.M.—none appearing before the former hour, and rarely any after the latter, except when the wind is high, and then the flight is protracted until noon; when very stormy they do not come at all. At the season of their earliest appearance, there is daylight between four and five o'clock in the morning, and their not being seen before eight o'clock leads to the belief that they have left some distant place at an early hour. On the same morning the flocks all take the same line of flight, but the direction varies when the wind is sufficiently strong to affect their move-

erly in the autumnal course. When they commence migration very late in the season, as was the case in 1838, they make up for lost time by an increase of numbers. Thus they were first seen in that year on the 23rd of October, when they made their appearance at half-past eight o'clock A.M., and continued passing in flocks of from twenty to one and two hundred individuals, until two o'clock. The following day, I had the gratification of witnessing a flock consisting of about two hundred, going through their beautiful evolutions, preparatory to roosting on a bank of *Arundo phragmitis* at the side of the river Lagan, near Stranmillis. From a great height in the air, they several times swept down almost vertically to the reeds, and, though the flock in each instance seemed to lose some of its numbers there, the great body sprang up again to a considerable altitude, and renewed its elegant manœuvres. Every time that they descended to the reeds, it was from the highest range of flight the stoop was made: when flying over at half the elevation, and they wheeled downwards, they never drooped so low as the reeds. At twenty-five minutes past four o'clock they had all alighted. Concealed by a high hedge, I had the opportunity of watching them from a short distance, and perceived by their flitting from one part of the reeds to another, that they were very restless for some time. In thus changing their quarters they rarely rose above the tops of the *Arundo*, and when at rest were perched so low down as to be invisible. After alighting they kept up a very noisy concert, in which no sound like their whistle was heard, but rather a medley different from and more guttural than their ordinary chatter.

I have seen small flocks of starlings on a few other occasions during the time of migration roosting here, and have (different from what has just been mentioned) remarked single birds perch so high up on the reeds as to sway them horizontally. These plants were always preferred here, for roosting in, to trees, though these, of various size, up to the most lofty, are quite contiguous. By Mr. Wm. Todhunter, late of Portumna, I have been informed, that after a hurricane in September 1836? nearly nineteen hundred of these birds were washed ashore on the banks of the Shannon. The reeds in which they placed their trust were snapped asunder in consequence of their weight. Starlings are stated by Mr. Todhunter to be vastly more numerous during winter than summer in that quarter. This gentleman remarked that they frequented the same woods for roosting-places for two or three winters only: in the course of eight years, during which he lived at Portumna, they thus changed three times.

ments. Those which come within the hours already mentioned very rarely alight; but when a flock arrives during the day it occasionally does so, apparently as if it had flown from a greater distance than the earlier comers, and required rest and food before proceeding further. The number of birds that come in this course is not very great. The average of five or six flocks seen in a morning may consist of about 250 individuals; the greatest number ever seen in one day may have amounted to 1500; and those altogether seen throughout the migratory period may be estimated at about 15,000. Of my three informants, two live in the district over which the starlings fly, and consequently have had daily opportunities of seeing them in their season (one indeed has done so for the last half-century), and the other was in the habit of going to the place every morning in the hope that the flocks would pass over within shot, which they often did. In only one instance did any of these persons see starlings return this way in spring, namely, on the 13th of March, when a flock appeared passing north-eastward, in the direction whence they come in autumn*:—on the 23rd of that month, a flock consisting of sixty was once observed by myself returning in this course.

These birds very rarely stop anywhere in the vicinity of Belfast on their southward migration; but a low lying tract of marshy meadows, when flooded by excessive rain, has occasionally tempted the latest comers to remain a few days, and till the end of December 1833, a flock of about 200 frequented a district at the base of the mountains three miles from the town. The only instance in which one of the shore-shooters before mentioned met with these birds about the bay in winter, was some years ago during heavy snow after Christmas, when they appeared in immense flocks. So numerous were they, that some of the little grassy patches rising above the ooze near the shore could not contain them, and a portion of the flock kept hovering above their more fortunate brethren who had found a resting-place. On such petty islets of green-sward or on heaps of "sleech-grass" (*Zostera marina*) only did

* The autumnal flights of these birds can be traced as coming from Scotland. Capt. Fayrer, R.N., in a letter dated Portpatrick, Oct. 23, 1831, and published in the Proceedings of the Zoological Society of London, remarks, that "very large flocks of starlings have arrived within the last few days. They start before sunrise and steer to the southward." I have had circumstantial evidence of this fact myself, as some years ago, when shooting at the latter end of October about Ballantrae, in Ayrshire, flocks of these birds were numerous, where subsequently, from the 12th of August to the middle of September, a very few individuals only, which had their nestling-places in the neighbourhood, were to be met with.

he on this occasion, or ever in autumn, see them alight—the sand or bare beach was always avoided. In the middle of March, flocks of starlings have occurred to me in unusual localities, and were supposed to be moving northward on migration; and during the first week of April 1837, large flocks were seen in “unaccustomed places” in Down and Antrim, having doubtless been kept from crossing the channel by the prevalence of the north-east wind and very cold weather.

Although the multitudes seen about Belfast are on their way southward, the extensive marshy tracts of the most northern counties (Antrim, Londonderry and Donegal) display throughout the winter their hosts of migratory starlings. Mr. Knapp remarks that these birds sometimes associate, but not cordially, with fieldfares (*Turdus pilaris*): the Rev. G. M. Black informs me that at Newtown-Crommelin, in the county of Antrim, where they are in immense flocks throughout the winter, they are always associated with these birds*, and as there are neither reeds nor trees near the place, he is of opinion that they must spend the night in company upon the ground. That the fieldfare in some districts remains during the night upon the ground is mentioned in a former paper of this series.

Mr. R. Ball remarks, that “starlings seem to have fixed on our celebrated round towers as favourite nestling-places,” and certainly they are admirably suited to such a purpose, there is so little danger of molestation. Ruins generally, old trees, rocks†, and occasionally chimneys, are resorted to for nestling. These birds, it may be remarked, are not spread over Ireland as they are over England in the breeding-season, but are confined to comparatively few and favourite localities. Within the memory of old persons they built annually in the steeple of St. Ann’s church, Belfast, and in other places within and about the town, but have long since ceased to do so ‡.

* In his ‘History of Cork,’ Smith quaintly observes—“They company with redwings and fieldfares, yet do not go off with them.”

† When at the peninsula of “the Horn” (co. Donegal), and at the largest of the South Islands of Arran, I was informed that they build in the lofty rocks which rise above the ocean—in the latter locality they nestle also in ruined buildings. In Dr. J. D. Marshall’s memoir on the Statistics and Natural History of the Island of Rathlin, published in the Transactions of the Royal Irish Academy in 1836, it is remarked of the starling,—“This is one of the most common birds in Rathlin. It is found over the greater part of the island, but principally about Church Bay, where the houses are more numerous, and where there are a few trees and shrubs. In July they were assembled in flocks of from one to two hundred, dispersing themselves over the fields and along the sea-shores. They frequented the more rocky parts of the pasture-fields. * * * * They build among the rocks.”

[‡ They still frequent the precincts of the Charterhouse in the centre of London.—Ed.]

Massareene deer-park*, and Shane's Castle Park, both well wooded and very extensive domains situated on the banks of Lough Neagh, and far remote from public haunt†, are now their nearest regular nestling-places. Ruined castles, both in marine and inland localities in the north of the island, where not very many years ago they nested, have of late, without any apparent cause, been deserted; and the same has been reported to me with respect to districts in the south‡.

The starling has been well described by authors as one of the most sociable of birds. Every month in the year it may be observed in flocks, though in May and June but few individuals comparatively are seen congregated in these islands. At the end of May, I have in Holland remarked considerable flocks feeding in the pastures, and flying from tree to tree on the road-sides. At the end of June and very early in July large flocks are not unfrequent;—around Penrith in the north of England, about Birmingham, and in the very different scenery of the South Islands of Arran, at the entrance of Galway bay, I have observed them at this season.

It is most entertaining to witness starlings feeding, so very active and lively are all their movements; not one moment are they still, and well may it be so, for truly are they omnivorous§. In the 'Fa-

* May 29, 1836. I remarked nine starlings associating together here, and about the same time saw a single bird hastening with its bill filled with food to its mate or young. From the 6th of June to the second week of July, according to the season, young starlings have been observed by the Bishop of Norwich to be able to leave their birth-place in company with their parents.

† This observation, correct though it be, may seem strange to persons who, like myself, have at this season observed the starling about the parks of London, including the much-frequented St. James's Park.

‡ Mr. Waterton, in his 'Essays on Natural History,' treats in a most interesting manner of the starling, and satisfactorily accounts for the comparatively smaller number of these birds breeding in England than formerly:—the reasons there assigned partly apply to Ireland also.

§ The contents of the stomachs of starlings often show that a great deal of life of various kinds is sacrificed to their appetite, and in quantity as well as variety of food they exceed all birds that have come under my observation. From my notes a few examples may be selected. Dec. 17, 1834.—A starling was found to contain five perfect and full-grown specimens of *Bulimus lubricus* and a *Helix radiatula*; some minute Coleoptera, especially dung-beetles, and numerous insect larvæ; a blade of grass, a few grains of oats, and fragments of gravel.

March 12, 1835.—On opening a starling, thirteen specimens of *Bulimus lubricus* and two *Helices*, together with perfect Coleoptera of different species, and numerous larvæ, were observed.

Dec. 29, 1835.—The stomach of a starling was filled with insects of various kinds, or indeed families, but chiefly Coleoptera, some grain, and the following shells:—twelve perfect adult specimens of *Helix radiatula*, a *Hel. cellaria*, and a *H. hispida*, both whole and of ordinary size; twelve examples of *Bulimus lubricus* nearly all adult and perfect.

Nov. 25, 1836.—Nine starlings examined contained only the remains of

miliar History of Birds' and the 'Journal of a Naturalist,' their habits are admirably treated of: in the former work the singular flight of a large body before retiring to roost is described in the most graphic manner. Mr. Knapp correctly observes, that "they seem continually to be running into clusters," which, in the winter season, "brings on them death," as they become thereby a temptation to the shooter; but an instance to the contrary may here be mentioned. A small flock observed by a shooter of my acquaintance alighted in a field where his cow was grazing, and clustering on the ground about her head, kept pace with her movements, watching it was believed for some favourite food which she aroused; hence the birds, though fairly within shot, could not be fired at, lest the cow should be brought down by the same discharge!

The starling is to be met with very generally over the continent. Holland may, from the nature of the country, be called its metropolis. Southward, I have in August seen it in the Pontine marshes between Rome and Naples; and eastward, observed numbers in the middle of the month of May about the ruined walls of Constantinople, near the celebrated Seven Towers. On comparing an example killed in Ireland with one from India labelled "Suharunpoor; January," they proved identical in species.

THE ROSE-COLOURED PASTOR, *Pastor roseus*, Temm., has at rare and uncertain intervals during the summer and autumn visited all quarters of the island, including the range of the most western counties. In the course of three successive years this bird has been met with. It has generally appeared singly and during the cherry season, and has in several instances been taken alive.

In a letter from Dr. R. Graves of Dublin to a mutual friend in Belfast, dated Nov. 1830, it is mentioned, that "among my late acquisitions has been the *Turdus roseus*, shot in a cherry orchard in the county of Clare [in the summer of 1830?] by one of my pupils, whose father says he shot a bird of the same species thirty years ago in the same orchard." Dr. Graves was at that period forming a collection of native birds, and subsequently I saw the pastor alluded to, together with other rare species which he possessed. In the first volume of the 'Magazine of Natural History,' p. 493, a letter appeared from Mr. C. Adams Drew, dated Ennis, June 25, 1828, in which the writer states that—"It is now above twenty years since, on visiting my friend Mr. Lane at Roxton, I found him in his garden endeavouring to shoot a strange bird which had for several days previous been making sad havoc among his cherries. After two or three unsuccessful attempts on the part of Mr. Lane, the bird at last fell

insect and vegetable food. They were shot together near Lough Neagh. *Clausilia rugosa* and *Limneus fossarius*, with earth-worms, and seeds of many kinds, have been found in others.

[A starling which I once had was exceedingly fond of calcavella. After having sipped a teaspoonful with avidity, he would dance in an ecstasy of delight, repeating his own name, 'Jacob.'—R. T.]

to my barrel. * * * Its cry resembled that of the water-ouzel. It was quite a *rara avis* in this country, no one knowing anything of it." A description of the bird follows, proving it to have been the *Pastor roseus*. The specimen was given to a gentleman mentioned, with the intention that it should be preserved for the "Dublin Museum." It is possible that the same example of the bird may be alluded to, in both of the foregoing letters. In the 'Zoological Journal,' No. 4, p. 489, Mr. Vigors states that a rose-coloured pastor, shot near Wexford in 1820, is in his collection. One obtained in the year 1830 has already been noticed. I have been informed by Dr. Harvey of Cork, that a bird of this species "was captured at Carrigataha, adjoining Ballibrado, in the county of Tipperary, in June 1833, by Mr. Fennell, who baited a fish-hook with a cherry, which the bird swallowed, and was thus taken." A pastor which I saw in the possession of Mr. W. S. Wall, bird-preserver, Dublin, was noticed in a letter from the Rev. Thomas Knox as "shot in a garden near Dublin on the 20th of July 1833. On dissection, the bird proved to be a female; the eggs were small and not distinct; gizzard muscular; the skins of cherries visible, by which fruit the inside of the gizzard and mouth were stained bright pink." When in Dublin on the 26th of June 1834, I saw in the bird-preserver's just mentioned an example previous to its being skinned of an adult male *P. roseus*. It was taken in a cherry-net in the garden of Richard Long, Esq., Longfield, Cashel, on the 7th of that month, and had been kept alive for a fortnight. In July 1836, Lieut. Davis, R.N., of Donaghadee, sent to the Belfast Museum an individual of this species, which was captured early in the month, in a garden near that town. It had been kept alive for a few days: on dissection it proved to be a male, and was in adult plumage. About the middle of the same month a second example, which came under my examination, was shot at Hillsborough, in the same county. On the 12th of August that year, a third was made known to me as obtained in Ireland: this was shot near Kenmare, in the county of Kerry*; and sent by Dr. Taylor, the distinguished botanist, resident in that neighbourhood, to Mr. R. Ball of Dublin. In the summer of the following year (1837), as I learn from Mr. T. W. Warren of Dublin, a pastor, which he saw in a fresh state, was shot from among a flock of starlings in one of the islands of Arran at the entrance of Galway Bay; it was preserved for Mr. Thompson of Clonskea Castle, the proprietor of the islands. In June 1838, as reported to me, one of these birds was sent from Ashbourne, about ten miles from Dublin, to Mr. W. S. Wall, to be preserved. The stomach was found on dissection to be filled with cherries. Dr. Farran of Feltrim, in the vicinity of the metropolis, likewise informed me, that on the 7th or 8th of July 1838, a *P. roseus* was shot when feeding on the same fruit at Newbarron, near Fieldstown, a few miles from Dub-

* In a letter from Mr. William Andrews of Dublin, dated Nov. 14, 1841, it was mentioned, that "three specimens of the rose-coloured pastor have been shot near Tralee, one in the garden of Colonel Crosbie."

lin*. On the 13th of September 1838, I saw two specimens which had been killed in different parts of the north of Ireland. One was shot about the 1st of that month in the plantations about Bangor Castle, county of Down, where another was seen in company with it; they had been observed for some time before: on dissection, no food was found; it proved to be a male, as the plumage denoted. The other example was shot by Alex. Tyler, Esq., at the Umbra, Magilligan, county of Londonderry, about the 10th of September. Having the opportunity of examining this bird in a fresh state, I drew up the following description.

	inch.	line.
Entire length	8	9
Bill from rictus to point	1	2½
Upper mandible, measured along the ridge from forehead } to point	0	9
Wing from carpus to end of longest quill	5	0
Tail extending beyond closed wings	1	0
Tarsus	1	3
Middle toe and nail.....	1	3
Hind toe and tail, measured in a straight line	0	9

Tibia feathered to the tarsal joint. Colours, those of the adult male as described by authors (as are likewise those of the one above noticed from Bangor Castle), and as such contradistinguished from the plumage assumed until the second year as described by Temminck (Man., part 3, p. 76). On dissection it proved a male; it was in excellent condition. Its stomach, with the exception of a large coleopterous insect, was entirely filled with the seeds of gooseberries.

In April 1838, I learned from Mr. H. H. Dombrain of Dublin, that he had received a rose-coloured pastor which had been captured some years before at Woodhill, Ardara, in the county of Donegal, the seat of Major Nesbitt: it was taken alive in the green-house in an exhausted state, and died a few hours afterwards.

On a comparison of Irish examples with specimens obtained in India (in the same locality with the starling already mentioned), the species proved to be the same.

THE CHOUGH†, *Fregilus Graculus*, Selby, is noticed in Harris's 'Down' (1744), and Smith's 'Cork' (1749), as one of the birds of those counties, and in the latter is said to be "very common, frequenting rocks, old castles and ruins upon the sea-coast." The species is more generally diffused around the rock-bound shores of Ireland than British authors would lead us to believe it is on those of Scotland and England, and

* As it was not until some months afterwards that the notes were communicated, the same individual may possibly be alluded to by both my informants; in which case there would be an error about the month.

† Red-legged jackdaw of the north of Ireland; cliff-daw of Kerry. Smith states in his 'History of Cork,' that the Irish name for this bird implies a Spanish jackdaw.

may be met with in such localities in the north, east, south, and west of the island.

The basaltic precipices of the north-east are admirably adapted to choughs, and about the promontory of Fairhead these birds especially abound. On one occasion, when visiting this place and the headlands in the immediate vicinity of the Giant's Causeway on the same day (8th of June) during the breeding-season of these birds, I remarked choughs only about the former locality, and jackdaws only about the latter, both species being numerous in their respective quarters: the choughs too were wonderfully tame in this instance, permitting our approach within about twenty-five paces*. About Horn Head, in the north-west of the county of Donegal, I saw many choughs and jackdaws in the month of June, and was told by the gamekeeper of the district that they never bred in company nor associated together there; the nest of the chough was stated by him to be placed so far within the clefts of rocks as to be difficult of access. The nearest place to Belfast tenanted at present, or within the last few years, by a pair or two of these birds, is a range of marine cliffs called the Gobbins, just outside the northern entrance to the bay. Here on the 28th of May a few years ago, a nest of young birds which had made known their proximity to the summit of the rocks by their calls for food, was doomed to perish by a visitor to the place wantonly shooting both their parents. The only instance in which I have had personal knowledge of choughs wandering far from their usual haunts, and to a place in no respect suited to them, was on the

* In Dr. J. D. Marshall's memoir, before alluded to, on the statistics and natural history of the basaltic island of Rathlin (lying off the north of the county of Antrim), it is remarked of the chough, "This is called by the islanders, the *jackdaw*, and is by far the most numerous species on the island. In the month of July, I found them everywhere associated in large flocks, at one place frequenting inland situations, and at another congregated on the sea-shore. They had just collected together their different families, now fully fledged, and were picking up their food (which consisted chiefly of insects), either on the shore, in the crevices of rocks, or in the pasture fields. Mr. Selby mentions that the chough will not alight on the turf, if it can possibly avoid it, always preferring gravel, stones, or walls. In Rathlin, its choice of situation seems to be but sparingly exhibited, as I found it frequenting the corn and pasture fields, in even greater numbers than along the shores. * * * They breed on the lofty cliffs overhanging the sea; the eggs are of a whitish colour, speckled at the larger end with brown. The chough is of a restless, active disposition, hopping or flying about from place to place; it is also very shy, and can with difficulty be approached. Temminck says, that the legs of this bird, before the first moult, are of a dark colour, while Montagu affirms, that they are orange-coloured from the first. The young which I examined were about six weeks old, and in them the bills were of a brownish orange; not of that brilliant colour which marks the adult bird, but certainly exhibiting enough of the orange to lead us to conjecture that they would become completely of that colour after the moult. The legs could not be called 'orange-coloured,' for although there was a tinge of that colour, yet the brown predominated. I should, therefore, agree with Temminck, in stating the legs and feet to be 'dark-coloured' in the young birds."

5th of March 1836, when a pair appeared, and one of them (in beautiful adult plumage) was shot at Dunbar's Dock, Belfast. That day and the preceding were very stormy, and the wind southerly : their haunts to the southward are all far distant. The stomach of the specimen was filled with insect larvæ.

When on a tour with Mr. R. Ball in the summer of 1834 to the west and south of Ireland, choughs occurred to us at Achil Head, and the largest of the South Islands of Arran, &c., in the west ; and in the south, were heard about the Lower Lake of Killarney ; and were seen at Cable Island, near Youghal. Colonel Sabine has noticed that they breed in the rocks at Ballybunian, on the coast of Kerry ; and the late Mr. T. F. Neligan of Tralee, in mentioning to me some years ago that they were very common about the marine cliffs of that county, stated, that numbers build in the rocks of inland mountains, four and five miles distant from the sea. The choice of such places is not rare in Ireland. Some of the latest writers on British ornithology appear to think that the chough never leaves the vicinity of the sea, and in one work it is inadvertently stated that the species is "never observed inland," although Crow Castle is noticed by Montagu as one of its haunts. This is situated in the beautiful vale of Llangollen in North Wales, where the Lombardy poplar spiring above the other rich foliage around the picturesque village of the same name, imparts, in addition to other accompaniments, quite an Italian character to the scene. But to particularise further in Ireland : the Rev. G. M. Black observed a pair of these birds throughout the breeding-season about a ruin between Newtown-Crommelin and Cushendall in the county of Antrim, and three miles distant from the sea : at Salagh Braes, a semicircular range of basaltic rocks in the same county, and nearly twice that distance from the coast, the chough nestles. The gamekeeper at Tollymore Park, county of Down, informed me in 1836, that he had shot these birds in the mountains of Mourne, which are regularly frequented by them, and where they build in the inland rocks. Here for some years previously, he annually discovered two or three of their nests, whence he has taken the young with the intention of rearing them, but in this he was unsuccessful. This intelligent gamekeeper assured me, that once in the mountains here, he came upon seven choughs attendant on a poor sheep, which was in a particularly weak state when lambing. About half of the young animal was protruded, and had been nearly consumed by three of these birds, which were busily engaged preying upon it*. He had not a gun with him at the time, but was so wroth at witnessing this cruelty of the chough, that in the latter part of the day, when armed, he sacrificed three of these birds ; all which came within his range. He believes that choughs would even destroy a weakly animal. They are seen by him commonly frequenting the entrance to foxes' earths, for the purpose, he conceives,

* Mr. Hogg contributes to Macgillivray's '*British Birds*' (vol. i.) a similar account of the carrion-crow, with horrible details of what to human sympathy would seem its cold-blooded cruelty to sheep, when in the act of parturition.

of feeding on "sheep-shanks" and other similar rejectamenta. As the chough is not considered a carnivorous bird, I was most particular in questioning my informant as to the species, and of his accuracy there cannot be a doubt. Montagu mentions that his tame bird was fed partly on raw and boiled flesh-meat.

Mr. R. Davis, jun., of Clonmel, informs me respecting the chough, that it has been shot within a mile of that town, and that he has seen the species at Helvick Head in the county of Waterford, and great numbers at Loop Head on the coast of Clare;—about the marine cliffs generally of the latter county, Mr. W. H. Harvey states that it is common. Mr. Davis writes—"although Mr. Selby says 'it has been remarked that the chough will not alight on the turf if it can possibly avoid it, always preferring gravel, stones or walls,' I have seen hundreds freely alight and feed on it, and have observed them feeding like rooks in a ploughed field." I have myself observed these birds on the short pasture of the marine cliffs, but consider that they have the predilection noticed by Mr. Selby, whose remark however may refer merely to Montagu's tame bird. Mr. Davis further states, that "great numbers of choughs breed in the precipices over the lakes in the Cummeragh mountains, county of Waterford, about seven Irish miles from the sea, where they are very rarely molested, on account of nestling in almost inaccessible spots. Here the young were ready to fly on the 6th and 7th of August 1836: on the 28th of April 1841, I got four of their eggs from this locality."

I have seen examples of the chough which were killed about Portpatrick in Wigtonshire, and on the Ayrshire coast; and have heard the call of the species in the evening about the ruined castle at Ballantrae in the latter county. In July 1826, when in the valley of glaciers on the south side of Mont Blanc, I was attracted by the well-known but somewhat distant call of the chough, and on looking up saw an immense flock bending their way towards the pinnacles or *aiguilles* of that "monarch of mountains*."

THE RAVEN, *Corvus Corax*, Linn., is distributed over Ireland, and is more especially to be seen within a day's foray of the rocks in which it can roost or nestle. As sites for the raven's building, rocks are preferred to trees in this island, and wherever there is a range of cliffs suited to the purpose this bird is sure to be found, unless the eagle or buz-

* The call of the closely allied *Pyrrhocorax pyrrhocorax*, Temm., likewise an inhabitant of the Alps, is unknown to me, but in the present instance my attention was arrested by the similarity of the note to that of our native bird.

This to my ear is very lively and pleasing, and cannot be mistaken for that of the jackdaw. The flight of the chough too is peculiar, though, as in others of the *Corvidæ*, the quills are much expanded, and give a deeply fringed appearance to the wing as the bird flies overhead. A friend remarks upon the flight as "singularly waving; they flap their wings, then sail forty or fifty yards, and so on gradually until they alight."

zard monopolize the locality. From time immemorial ravens have been considered to inhabit the same rock. In the lower districts of England certain trees have for such a length of time been resorted to by this species for nestling, as to have acquired the name of Raven-trees. In like manner, a wild and unfrequented locality in the Belfast mountains bears the name of the Crow Glen, in consequence of a pair of ravens having for a series of years nestled there in a cliff. Persecution has long since driven them from the spot, which however still retains the name. Their place was for some years supplied by a pair of kestrels (*Falco Tinnunculus*); but as their nest, though not easy of approach, could, with some difficulty be reached, it was always robbed of its young tenants, and this species too has ceased to nidify there*.

I have with much interest observed in the month of October, about the fine basaltic cliffs of the Cave-hill, near Belfast, and long after the breeding-season was past, that as evening set in, a few ravens would appear together hoarsely croaking about the rocks, whilst at the same time hosts of jackdaws were garrulously chattering, and several kestrels added their shrill voices as they careered gracefully about in company. After some little time they all retired to the rocks for the night.

On one occasion I had interesting evidence of the power of sight in the raven. A nest of young rats not more than three or four days old had been dug up in a stubble field, and after being killed were left there. Very soon afterwards two or three ravens passing over the place at a great height, on coming above the spot dropped almost directly down upon them. The young rats had not been ten minutes dead at the time, and consequently could hardly have emitted any effluvia. Besides, they were so small, that even had they given out any to the air, it seems hardly possible that it could have ascended to the great elevation at which the birds had been. Sight alone, I conceive, must in this instance have been exerted.

Mr. R. Davis, jun., of Clonmel, remarks, that ravens, if taken young, can be reared so as not to injure other birds, as he "for a

* Ravens are generally so very wary and mistrustful of man, that the following note (communicated by my brother) may be worth insertion. "In the middle of March 1828, a pair of ravens had a nest in Grogan's Glen, in the Black Mountain (near Belfast). It was near the top of the highest rock; was formed of sticks and lined with wool; it contained seven eggs of a dark green colour, blotched over with black. The birds were very tame, the first day I saw them approaching within three or four yards, and hopping about near me so long as I remained, when their glossy plumage looked very beautiful." Their tameness arose simply from their being unmolested in the locality, perhaps in consequence of a belief among the country people, that it is "unlucky" to kill a raven; for this very pair of birds was known to carry off eggs, young ducks, &c., from the nearest farm-yards. But, as is usual in such cases, one of the poor ravens, by thus putting its trust in man, was shot a few days afterwards by a vagrant gunner.

long time kept in one cage a raven, a hooded crow, a jackdaw, a magpie, and a jay, all of which lived on good terms with each other." Mr. R. Ball communicates the following anecdote of this species:—"When a boy at school, a tame raven was very attentive in watching our cribs or bird-traps, and when a bird was taken, he endeavoured to catch it by turning up the crib, but in so doing the bird always escaped, as the raven could not let go the crib in time to seize it. After several vain attempts of this kind, the raven seeing another bird caught, instead of going at once to the crib, went to another tame raven, and induced it to accompany him, when the one lifted up the crib, and the other bore the poor captive off in triumph." It was a common practice in a spacious yard in Belfast, to lay trains of corn for sparrows, and to shoot them from a window, which was only so far open as to admit the barrel of the gun; neither the shooter, nor any but a part of the instrument of destruction, being ever visible from the outside. A tame raven which was brought a young bird from the nest to the yard in question, and probably had never seen a shot fired, afforded evidence at the same time that it understood the whole affair. When any one appeared carrying a gun across the yard towards the house from which the sparrows were fired at, the raven exhibited the utmost alarm, by hurrying off with all possible but most awkward speed to hide itself, loudly screaming all the while. Alarmed though it was for its own safety, this bird always concealed itself near to and within view of the field of action, and the shot was hardly fired when it dashed out from its retreat, and seizing one of the dead or wounded sparrows, hurried back to its hiding-place. The whole scene I have repeatedly witnessed. The raven's portion of the sparrows was as duly exacted as the tithe of the quails killed during their migration at Capri are said to be by the bishop of that island.

Mr. R. Patterson in a note which he has contributed thus states—"In September 1831, I travelled from Portarlington as far as New-bridge barracks with a very intelligent man, the colonel of a Lancer regiment stationed there. This gentleman mentioned, that when travelling near Limerick on the preceding day, he from the coach-top saw a raven alight among a flock of full-grown ducks in a field adjoining the road, and after having given one of them a few blows, throw it on its back, and begin to tear it up. All works on ornithology mention that the raven destroys young ducks and chickens, but I did not before know that it ever carried its audacity so far as to attack a duck when full-grown, as in this instance*." The late Mr. T. F.

* Mr. Waterton states that a tame raven kept at Walton Hall "took a sudden dislike to an old duck, with which, till then, he had been on the best of terms; and he killed her in an instant."

A raven which lived in the yard attached to the chief inn at Antrim, for about fifteen years, had occasional encounters with game-cocks brought thither to engage it, and bets were pending on the issue. The raven in every instance proved the victor. It avoided the blows of the cock, and acted only on the defensive, until it could manage to lay hold of the cock's head, which as soon as done, was crushed in its powerful beak, and its antagonist fell lifeless on the ground.

Neligan of Tralee, mentioned to me, that ravens chiefly frequent the sea-shore in the county of Kerry, where he had often seen them feeding on putrid fish. Great numbers of these birds are in some works (especially those treating of American ornithology) described as flying in company. Although ravens may be seen every day in the year around Belfast, the most I have heard of being seen on wing together did not exceed twelve in number. About Navarino and Athens I have met with the raven—at the latter place Chateaubriand introduces it, in his description of sunrise as seen from the Acropolis*.

Mr. Waterton, in his 'Essays on Natural History,' gives a highly interesting account of the raven, but to his great grief, this bird has not for many years been seen about Walton Hall.

Sir Wm. Jardine, in his 'British Birds,' points out with an accurately observant eye the favourite haunts of the raven. Mr. Macgillivray treats very fully of its habits, and gives much desirable information (vol. i.); as Audubon likewise does, from personal observation in America. The raven is honoured with a place in those delightful articles in 'Blackwood's Magazine' for 1826, entitled 'A Glance over Selby's Ornithology,' in which the keen observer of the habits of birds is evident, through the wit and imagination investing the whole subject.

CARRION CROW, *Corvus Corone*, Linn.—This species was noticed by Smith as one of the birds of the county of Cork; but that it is not well known in Ireland is sufficiently indicated by the absence of its name from Mr. Templeton's published catalogue of the native vertebrate animals. In the MSS. of that eminent naturalist it is remarked—"I have not seen this bird, but from what I have heard am inclined to think it is found about Dundalk." Its not being distinguished from its equally sable congener the rook, is one reason for the carrion crow being considered more rare than it really is†. About the river Lagan, within the flow of the tide, and along the shores of Belfast Bay, this bird is by no means scarce, and feeds upon any animal matter cast up by the waves, but more

* 'Itinéraire de Paris à Jérusalem.'

† Since the above was written, the 1st volume of 'Tracts relating to Ireland, printed for the Irish Archæological Society,' has appeared. In 'A Brief description of Ireland, made in this yeere 1589, by Robert Payne,' it is stated,—“There is not that place in Ireland where anye venomous thinge will liue. There is neither mol, pye, nor carren crow.” In a note to this, Dr. Aquila Smith of Dublin (who edited the memoir) remarks—“Of the *carren* or carrion crow (*Corvus corone*), we have not any authority as to the date of its introduction into Ireland. Moryson [in 1617] says, we have not the blacke crow, but onely crowes of mingled colour, such as wee call Royston crowes,” part iii. b. 3. p. 160. Although the attractive magpie may have been introduced to this country, I cannot think that the carrion crow ever was, but believe it to be strictly indigenous; its comparative scarcity in this island, together with the reason adduced above, caused it, I conceive, to be overlooked.

especially rejoices in the carcasses of horses, which after being skinned are left upon the beach. The refuse of the slaughter-house, when spread on meadows for manure, particularly attracts it inland.

The carrion crow is known to me as found in the north, east, and west of the island : in the south, as already mentioned, it was noticed by Smith, yet was never seen by Mr. R. Ball during his residence at Youghal. About Clonmel, however, Mr. R. Davis, jun., states that it is always to be found, though not very common. In the neighbouring county of Kilkenny, the attention of a gentleman of my acquaintance was one day attracted by a "black crow" having an extraordinary white appearance about the head. It flew about a hundred yards after it was first seen, and then alighted on the ground. On running up to ascertain the cause of the phenomenon, he was astonished to see the identical bird fly off an ordinary crow ; but on reaching the place where the bird had "pitched," a duck's egg was found, which being carried in the bill had produced the appearance described—the egg was still whole*.

When at Glenarm Park, county of Antrim, in 1833, I was informed by the gamekeeper, a native of England, and who knew the bird well there, that he had seen a few about Glenarm, and that in the breeding-season one of these birds and a gray crow (*C. Cornix*) were constantly associated together for some weeks, and he had no doubt were paired. A Scotch gamekeeper who very soon afterwards supplied the place of my informant, told me the following year that he had occasionally killed the carrion crow in Glenarm Park, but considered the species rather rare†. He assured me that when gamekeeper in Scotland, he had repeatedly seen the carrion and gray crow paired, and knew an instance of such a pair being mated for two or three years, and building in the same tree annually. The identity of the gray one was sufficiently manifest by its being minus a foot, which had not improbably parted company from its owner in some trap. In the instances which came under the observation of my trustworthy informant, the gray crow was considered to be the male, on account of its comparative absence from the nest, &c. The young birds in one nest examined by this gamekeeper were stated to have exhibited, some the plumage of the gray, and others, that of the carrion crow.

This species is sometimes, if not generally, infested with parasitic insects (lice) to an extraordinary degree, so much so, as in one in-

* In Macgillivray's 'British Birds' (vol. i. p. 526), an instance of the carrion crow bearing off the egg of a wild duck whole is recorded by Mr. Weir who witnessed it—this gentleman and Mr. Hogg contribute full and interesting narrations of this bird to the work. The contributions of the latter, called a "Shepherd" in the preface, have all the racy spirit of the mountain air about them. Mr. Waterton states that the carrion crow carries eggs off, "not in his bill but on the point of it, having thrust his upper mandible through the shell."

† I saw specimens which had been obtained there exhibited as "vermin" on one or both occasions.

stance to deter a friend from skinning one he had received, just after it was shot. On mentioning this to another amateur taxidermist, it was remarked, that in skinning one of these birds, he became "covered" with its parasites. According to my own observation, birds of prey, or species partly carnivorous, are more infested with lice than others; and particularly with those belonging to the most active and stirring genera of their attractive tribe! From Mr. Denny's forthcoming work, '*Monographia Anoplurorum Britanniae*,' we expect much novel information on this subject.

THE GRAY CROW*, *Corvus Cornix*, Linn., is a common species in Ireland, and resident in all quarters of the island. In the north and east it has come under my own observation at every period of the year, and is fully as numerous in summer as at any other time, although at this season it is absent from England. In summer I have remarked it to be common in the west and south, and my correspondents there agree in noticing it as a resident species.

From what has been written on the gray crow as a bird of Great Britain, it would appear to be more common in Ireland generally, than in England, or on the mainland of Scotland. The sea-shore or its vicinity is the favourite haunt of this bird, but it is likewise resident in far inland localities. Sir William Jardine states, that according to his observations rocks are preferred as a nestling-place; and Mr. Macgillivray (vol. i. p. 533) seems to doubt its building at all in trees; but around Belfast it prefers trees in the immediate vicinity of its "beat" to rocks which are a little more distant, and where the raven and jackdaw find a home. In some very fine and tall beech trees on a lawn bordering the bay, several pairs of these birds have built for many years, and two or three of their nests occasionally appearing in a single tree, suggest the idea of an infant rookery. When however more nests than one appear in any tree, they are I believe the erections of different years, or are not tenanted at the same time. In wooded glens, and other localities where the *Coniferae* bore a very small proportion to the deciduous trees, I have remarked the partiality of this bird for nestling in the pine. Mr. William M'Calla of Roundstone, states that "the gray crow is very common in Connemara, and breeds in all the wooded islands of the lakes, in other woods and thickets, and even in thorn-bushes in the vicinity of houses: it lays from three to five eggs. These birds are not accused of doing much harm to the keepers of poultry, the dead animal matter at all seasons on the shore supplying abundance of food." He further remarks, that gray crows "are very cunning in seeking their food, and that in the upper part of Roundstone Bay they may be observed picking up the *Buccinum boreale* [*undatum*?], rising with them into the air and then letting them fall on the rocks to break them: in this they are frequently unable to succeed, and have to drop

* In the north of Ireland it is commonly called by this, its most distinctive appellation.

the shell from a height in the air several times before attaining their object." Mr. R. Ball has seen one of these birds drop a cockle (*Cardium edule*) on a stone to break it, whilst another stood cunningly by to snatch it up, and succeeded in the theft. All this is but a counterpart of what is related by Dr. Fleming in his 'Philosophy of Zoology,' as having been observed by him in Zetland. The mere act of their rising into the air with shell-fish and letting them drop on rocks, I have myself repeatedly witnessed. This bird is useful on the sea-shore by consuming any animal matter cast by the tide upon the beach; but by the gamekeeper it is looked upon as an evil-doer, accused of sucking the eggs of game, and occasionally destroying the infant birds, and is accordingly persecuted. I remember a pair of these birds being accused of sucking a dozen or more eggs in a wild-duck's nest in the aquatic menagerie of a friend. At his place a novel experiment was once resorted to. Four young gray crows in a nest were pinioned, in expectation that their parents would continue feeding them so long that a certain opportunity would be afforded of shooting or trapping them. Disappointment was however the result, as the old birds, on returning to the nest and perceiving the mutilated state of their progeny, left them to perish.

A gentleman of my acquaintance, who is very observant of the habits of birds, once saw two gray crows in pursuit of a rabbit in an open field. The chase was continued only as it ran; when it squatted they never attempted to molest it: the chase and parley together were continued for some time. According to the testimony of several of the intelligent wild-fowl shooters of Belfast bay, gray crows are not uncommonly seen in pursuit of the smaller shore-birds (*Grallatores*); and two of my informants were witness to one of these crows pursuing a merlin (*Falco Æsalon*) which had captured a sand-lark (*Tringa variabilis*) until the hawk dropped it, when the crow picked it up from the surface of the water. A pet buzzard (*Buteo vulgaris*) belonging to a friend, was when flying about the demesne always persecuted by gray crows. The gentleman before alluded to shot one of these birds when it had young, and the same evening saw about ten gray crows come to feed the nestlings, which however died in the course of the night, which was very cold and wet. When engaged in the construction of their nest, these birds are more heedless of enemies than at other times, and then occasionally fall victims to the gun; but when one has been killed, the survivor is soon provided with a mate. At this early stage of the breeding-season (as remarked at "the Falls" near Belfast) neither these birds nor magpies were observed to be mated again for three or four days, when a new nest was commenced, not at the same place, but contiguous to the former one. The twice-married crows and magpies here, proved always too wary to be shot.

Mr. Yarrell observes, that "more than two are seldom seen associated together, except when food is to be obtained." But at all seasons of the year, I have seen them associating together in little troops up to the number of fifteen, on the shore of Belfast bay, when there was no apparent cause for their meeting; and when there has

been such in the inland neighbourhood, so many as seventeen have been reckoned on a single tree. In a rabbit warren at the wild peninsula of the Horn, in the north-west of the county of Donegal, I once, on the 27th of June, saw forty of these birds in a dense flock. A note appears in my journal stating that, on the 3rd of April and several previous mornings, seven or eight of these birds frequented an old garden in the town of Belfast, and one or two of them were occasionally to be seen perched on the back of a cow kept there. By George Mathews, Esq., of Springvale, county of Down, I have been informed that a relation living there, had a pet gray crow which followed him about the place. When not so engaged, it sometimes went to feed with its brethren on the shore, but always hurried back to its master when whistled for.

In the middle of May last, I met with this species in the Valley of Sweet Waters, near Constantinople, and at the beginning of June, in the islands of Delos and Paros.

LI. *Descriptions, &c. of a few rare or undescribed species of British Diptera, principally from the collection of J. C. DALE, Esq., M.A., F.L.S., &c.*

To the Editors of the Annals and Magazine of Natural History.

GENTLEMEN,

HAVING some Diptera in my British Collection of Insects which I could not ascertain the names of, I forwarded a few to Mr. Haliday for his opinion; and wishing that other entomologists should profit thereby as well as myself, I think I cannot do better than to make it public through the medium of the 'Annals.'

I am, yours obediently,

J. C. DALE.

Curtis's Guide, genus 1157, LIMNOBIA. (Subgenus DICRANOMYIA?)
Sectio.—Nervo cubitali furcato ramis liberis.

Areola disci nulla.

Areola brachiali anteriore posteriorem superante.

L. flavo-limbata (C. G., species 39^b).—Fusca, thoracis et scutelli limbo, pectoris vittâ laterali dilatatâ et ventris incisuris flavis: alis obscure hyalinis, stigmatè pallido, nervis pubescentibus.

♂ ♀ Long. $2\frac{1}{2}$ —3; alar. 6 lin.

? Synon. *L.* (39 C. G.) *pavida*, A. H. H., Ent. Mag. I. From a late letter it appears to be different from *pavida*, though allied to it.

"Fusca nitida. Antennæ fuscæ thoracis longitudine. Mesothoracis scutum et scutellum flavo-marginata. Pleuræ magnâ parte flavæ. Abdominis incisuræ ventrales et dorsalis ultima tenuiter flavicantes. Terebra rufescens gracilis recurva. Forceps ♂ brachiis linearibus reflexis. Pedes fusci. Halteres fusco-pallidi. Alæ obscure-hyalinæ, nervis pubescentibus, stigmatè obsoleto lutescente ad apicem nervi subcostalis. Nervus subcostalis marginem attingit adversus fuscâ nervi cubitalis. Nervus mediastinus cum subcostali connexus paulo ultra ortum radii, et cito marginem attingens. Nervus



Thompson, William. 1842. "L.—The Birds of Ireland." *The Annals and magazine of natural history; zoology, botany, and geology* 8, 406–430.

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