without noting any thing unusual. As it was, I had stood within a few feet for several minutes, and had passed my eyes over and over again across the place without finding it. Once, and once only, it raised its head, and immediately afterwards dived, going under very quietly and leaving hardly a ripple; this time I saw it emerge on the drain side about the same distance, namely twenty yards. Just then a flight of Plover passed, at which I fired; and I think the report must have caused it to rise, as, although I spent an hour in looking up and down the drain, and returned again at a later period in the day, I saw it no more." (Page 140.)

Vast numbers of Guillemots (*Uria troile*) and Razor-bills (*Alca torda*) breed on the precipitous cliff of Flamborough Head, as well as in various similar localities on the coasts of the British Islands. We ourselves have never had the good fortune to observe the mode in which the mother birds safely convey their young to the water from their aerial nurseries on the upper ledges, although we have often watched patiently for hours, in the vain hope of witnessing the performance. Indeed until now we never met with a satisfactory solution of the mystery; but here it is:—

"When the young are partly fledged, and even when they are quite little things, the old birds carry them down to the sea on their backs. This is done late in the evening, after sunset. The Flamborough boatmen say that when they are fishing under the Speeton Cliffs, on summer evenings, they have often observed this process of carrying the young down, the little fellow clinging to its parent's back, and not unfrequently tumbling from the somewhat precarious perch into the sea sooner than was intended." (Page 184.)

We must now take leave of this, the latest contribution to the avifauna of the British Islands, which, as a careful and painstaking record of the arrival of our migratory birds on the shores and flats of the wild and interesting region to which the author's remarks have been limited, may be regarded as almost exhaustive; and we heartily recommend, as a model for future monographers with similar tastes and equal opportunities, this charming little volume on the "birds of the Humber District."

Lecture on the Fææ Naturæ of the British Islands.

By JOHN COLQUHOUN, Author of 'The Moor and the Loch,' &c.

IF quality, not quantity, is the test of merit, then is the little brochure before us (for its modest dimensions forbid a claim to a more ambitious title) deserving of our warmest commendation. Though purporting to be simply "a lecture delivered to the St. Steven's Young Men's Literary Society," yet it contains matter that might easily be expanded into a goodly volume. Indeed the pleasure we have experienced in perusing its few though charming pages induces us to regard with envy the favoured audience who enjoyed the still greater treat of listening to the instructive words of such an observant naturalist and dexterous sportsman as the author of 'The Moor and the Loch.'

Unlike many who undertake to deliver public lectures in the present day to their less enlightened brethren, nothing has been "got up" by Mr. Colquhoun for the occasion. There has been no "cramming" or petty larceny from the labours of others; all is fresh and original, the result of long personal experience. Few indeed of the present, and still fewer of the rising generation, can venture to hope for such opportunities as have fallen to the lot of this veteran observer. Even in Scotland the nobler predatory quadrupeds are rapidly diminishing in number, while in England they have, with the exception of the fox, all but disappeared, the exclusive preservation of Reynard as an object of sport having perpetuated the species; but even in the Scottish Highlands, where no such immunity from persecution exists, Mr. Colquhoun considers that he will be "the last to disappear," as "from his swiftness and strength he can gather subsistence scattered over an immense tract of country, and when food fails on the higher grounds can make a raid on the lowlands during the long wintry nights, returning again to shelter with his booty ere the day dawns. Next, the great increase of alpine hares on the mountains and gradual but steady introduction of rabbits into many remote ranges, afford the hill-fox a favourite meal with but little trouble in securing it. Lastly, of all beasts of prey sly Reynard is the most difficult to trap."

On the other hand the marten (*Martes foina*) and the wild cat (*Felis catus*) are easily deceived with a bait. "Indeed both are so greedy and fearless as to rush into the snare for a piece of raw meat. Neither have speed to hold out before a swift plucky terrier, but are quickly 'treed' or run to ground. Should they take refuge in a hole or cleft of the rock, they are not difficult to bolt by smoke; but if they prove stubborn a neatly set trap will most likely secure them after nightfall. No wonder, then, that these interesting *carnivora* have vanished from the greater part of even the Scottish hill-districts, and that a tourist may now explore two thirds of the Highlands, and far from seeing either of them will find from the natives that there are none to be seen!"

Our author shares the popular belief that the dark ferrets, so common in every ratcatcher's hutch, owe their dusky hue to polecat parentage. He says, "dark ferrets exactly resemble fougarts, only they are smaller and of lighter shade. Many of these brown ferrets are half polecats; in fact the polecat is just a wild ferret."

Most of our high zoological authorities are of a different opinion. Bell considers the ferret (*Mustela furo*) specifically distinct from the polecat (*Mustela putorius*), and says that "of the assertion that the breeders of ferrets have recourse to the polecat to improve the breed he could obtain no authentic verification"*. Surely this *quæstio vexata* might easily be decided by experiment.

In reference to the food of the fougart, Mr. Colquhoun records that he found on one occasion, under the last massive boulder of a huge heap of stones, a female polecat with three young ones and

* 'British Quadrupeds.'

the remains of several large yellow frogs—and adds, “Still more difficult to credit, eels are often found among the food-store. How he catches *them* I have some curiosity to know. Yarrell says eels slide like serpents over the dewy grass from one drain to another. If so, the difficulty ends; for the fougart’s instinct would soon teach it to watch for the land progress of its slimy prey.”

In dear old Bewick, the delight of our youth, the woodcut of the fougart represents the animal with an eel in its mouth, the accuracy of the illustration being founded on the fact that several fine eels were discovered in its retreat, and that it had been tracked in the snow to the banks of a rivulet. Now we have never met with any one who could assert that they had ever seen a fougart in the water, and the matter has always been a puzzle to us; but we have to thank Mr. Colquhoun for dispelling the mystery.

We regret that the limited space at our disposal forbids us to indulge in further quotations. Suffice it to say that the badger (*Meles taxus*), the otter (*Lutra vulgaris*), and even the rat, all come in for their share of notice, their habits being graphically described and illustrated by characteristic anecdotes. We cordially recommend this interesting essay to the general reader as well as to the naturalist and sportsman.

PROCEEDINGS OF LEARNED SOCIETIES.

ROYAL SOCIETY.

Jan. 30, 1873.—George Busk, Esq., Vice-President, in the Chair.

“Note on the Origin of *Bacteria*, and on their Relation to the Process of Putrefaction.” By H. CHARLTON BASTIAN, M.D., F.R.S.

In his now celebrated memoir of 1862, M. Pasteur asserted and claimed to have proved (1) that the putrefaction occurring in certain previously boiled fluids after exposure to the air was due to the contamination of the fluids by *Bacteria*, or their germs, which had before existed in the atmosphere, and (2) that all the organisms found in such fluids have been derived more or less immediately from the reproduction of germs which formerly existed in the atmosphere.

The results of a long series of experiments have convinced me that both these views are untenable.

In the first place, it can be easily shown that living *Bacteria*, or their germs, exist very sparingly in the atmosphere, and that solutions capable of putrefying are not commonly infected from this source.

It has now been very definitely ascertained that certain fluids exist which, after they have been boiled, are incapable of giving birth to *Bacteria*, although they continue to be quite suitable for

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