

conditions of the Atlantic in winter and summer. It is pointed out that the opening of the Panama Canal in 1915 gives a great opportunity for the different countries sending vessels to represent them of taking simultaneously an extensive series of observations from Europe to America. It is to be hoped that the different Governments will be induced to take part in carrying out this important work, and thus mark the union of the Atlantic and Pacific Oceans by a unique effort to add to our knowledge of the sea.

W. S. B.

ORNITHOLOGICAL NOTES.

THE spring number (vol. vi., No. 1) of *Bird Notes and News* is devoted exclusively to the Plumage Bill, and its effect, if passed on workers in the feather-trade in this and other countries. It includes a good report of the debate which took place when the Bill came up for second reading, together with the division-list on that occasion. Individual opinions from various persons on the matter, as well as the views of scientific bodies, are also quoted. It is added that the vast number of bird-skins (many of them representing rare species of the paradise group) offered for sale at auctions in London affords fresh testimony of the need for prohibitive legislation.

The March-April number of *Bird-Lore* records some of the steps which are being taken to enforce the recent regulations of the U.S. Federal Government with regard to the slaughter of game-birds and their transport from one State to another, special attention being directed to the seizures of long guns carrying half a pound of powder and a pound of shot. One of the illustrations shows the costly monument recently erected in Salt Lake City to commemorate the gulls which saved the crops of the first Mormon settlers by devouring the grasshoppers by which they were being devastated. As the gulls had "the time of their lives," it is not apparent why a monument was required.

The roseate spoonbill (*Ajaia ajaja*) of tropical America forms the subject of an article, illustrated by a coloured plate, in the issue of *Bird-Lore* for May and June. So long ago as 1858 it appears that the pink curlews, as they are locally called, on Pelican Island, Florida, were the prey of plume-hunters, some of whom are reported to have killed upwards of sixty a day, and from that time to this these beautiful birds have been persecuted by every man who could lay his hands on a shot-gun. Now, however, the National Association of Audubon Societies has succeeded in establishing reservations in Florida, where the spoonbills may breed unmolested.

An article on the stilt and another on the moorhen are among the more noteworthy contents of the April number of *Wild Life*, the former an account of the author's success in photographing such a rare and shy species, and the latter for the beauty of the pictures.

In view of the probable extermination of the species at no very distant date, owing to the introduction of foxes, an article by Mr. J. G. O'Donoghue, in the *Victorian Naturalist* for May, 1914, on the habits of the Victorian lyre-bird has a claim to more than ordinary interest.

A paper by Prof. J. E. Duerden, published in the *Agricultural Journal of the Union of South Africa* for October, 1913, deals with the mode of development of the feathers of ostriches, and the entire absence of cruelty to the birds in clipping them, at the proper season, for market.

Bird-lovers in South Africa owe a debt of gratitude to Mr. Alwin Haagner for the issue of the first part of a concise descriptive list of South African birds,

published as No. 3 of the bulletin series of the publications of the South African Ornithologists' Union. This part includes the ostrich, of which the South African representative is regarded as a distinct species, the penguins, divers, petrels, gulls, and terns, cormorant tribe, ducks and geese, and the plover group.

An article by H. W. Heushaw on birds commonly to be seen in town or country in the United States, illustrated by sixty-four small portraits in colour, forms one of the most attractive features of the May number of the *National Geographic Magazine*. Of more general interest are two pictures, taken by Mr. R. E. Croker, representing a colony of something like 100,000 pelicans on the easternmost island of the Lobos de Afueva group, off Peru. Unhappily this vast colony, which had been unmolested for several years, has not escaped the attention of the guano-seekers, and, on a second visit, Mr. Croker found scarcely any pelicans near the old colony. "It is one of the tragedies," he remarks, "of the guano-industry that this important bird has received so little consideration."

It has been asserted that the Australian short-tailed petrel, or "mutton-bird" (*Puffinus brevicaudus*), takes no fewer than eight weeks to incubate its eggs. According, however, to a note by Mr. J. Gabriel in the April number of the *Victorian Naturalist*, one out of a clutch of eight eggs placed under a domesticated hen was hatched in forty-six days, the remainder of the clutch being either broken or infertile.

In his annual summary of bird-life in Norfolk, published in the May number of the *Zoologist*, Mr. J. H. Gurney records that spoonbills were seen last year at Breydon Broad at intervals from May 1 to August 16. As the result of a comparison of previous observations, it appears that these birds generally reach Norfolk during the prevalence of north-east winds, which are probably unfavourable to their northward migration.

As the result of an exhaustive study of the extensive series of cuckoos' eggs and the foster-clutches with which they were associated (some three hundred in number) included in the fine collection of eggs recently presented by Mr. R. H. Fenton to Aberdeen University, Dr. J. Rennie, in an article published in vol. xix., No. 5, of the *Proceedings of the Royal Physical Society of Edinburgh*, arrives at the conclusion that the theory of the existence of different strains of cuckoos, severally characterised by laying eggs of distinctive types of colouring, will not hold good. According to this theory, as enunciated by the late Prof. A. Newton, one of these strains—"hedge-sparrow cuckoos"—generally lays eggs assimilating in colour to those of hedge-sparrows in the nests of that species; while "wagtail-cuckoos" act in an analogous manner in the case of the species from which they take their name, and so on. In the opinion of the author, the clutches in the Fenton collection lend no support to the theory of the existence of such strains, at all events in this country. This conclusion, it is urged, receives further support from the polyandrous habit of female cuckoos, as individual hens may mate at one time with a cock of the "hedge-sparrow," and at another with one of the "wagtail" strain. The author, it may be added, alludes to these supposed strains as "subspecies," which is certainly a misuse of that term.

The remarkable changes in the length and colouring of the beak and in the colour of the plumage undergone by the white ibis (*Guira alba*) during its development from the nestling to the adult stage are graphically illustrated in a coloured plate accompanying an article by C. W. Beebe, forming No. 12 of the first volume of *Zoologica* (New York Zool. Soc.). In the nestling the short beak has dark barrings, and

the head and neck are darker than the back; later on the head and neck become lighter than the back, but by the time the bird has become adolescent the whole body is almost completely white, the head and neck alone being flecked with brown; the beak has increased inordinately in length, with the assumption of a pink tinge. Finally, in the case of the cock, the whole plumage becomes pure white, while the long, sickle-shaped beak, together with a large bare area at its base and in the orbital region, has become brilliant crimson. Although the article is headed "Notes on the ontogeny of the white ibis," no clue to the real meaning of these changes in form and colouring is suggested.

In the June number (vol. viii., p. 2) of *British Birds*, Messrs. Hans Stadler and Cornel Schmidt direct attention to the general neglect of the study and interpretation of the notes of birds in Great Britain, as compared with what is being done in Germany. Apart from the lack of musical appreciation or musical education, three main difficulties—namely, the determination of the pitch, the admixture of non-musical sounds with the notes of birds, and the "colouring" of these notes, which is often widely different from that of the human voice or ordinary musical instruments—have hitherto materially hindered this branch of study. The authors now demonstrate how these difficulties may be overcome.

Prof. R. Ridgway is to be congratulated on the publication (after an interval of three years since the appearance of its predecessor) of the sixth volume (Bull. U.S. Nat. Mus., No. 50) of his invaluable monograph of the birds of North and Middle America. This volume not only completes the Passerines, but also includes the Picarions and related groups, as well as the owls. In the latter group it is a matter for regret to see the barn-owls figuring as *Tyto*, while *Strix*, following the classification of the late Prof. Newton, is transferred to the tawny owl. This is eminently a case for the intervention of the "fiat" of the International Commission on Zoological Nomenclature. In most other respects Prof. Ridgway's latest effort is worthy of high commendation.

In a handbook and guide to the British birds exhibited in the Lord Derby Museum, Liverpool, it is claimed that a coot mounted amid an imitation of its natural surroundings in 1865 was the first exhibit of this kind shown in this country, if not in the world. Groups of all species nesting in the Liverpool district, together with a few others, are now exhibited in the museum, and of a dozen of these groups photographs are reproduced in the guide. The nomenclature is much the same as in Newton's "Yarrell," but it seems illogical to use the name *Lagopus lagopus* for the willow-grouse, and yet to retain *Perdix cinerea* for the partridge.

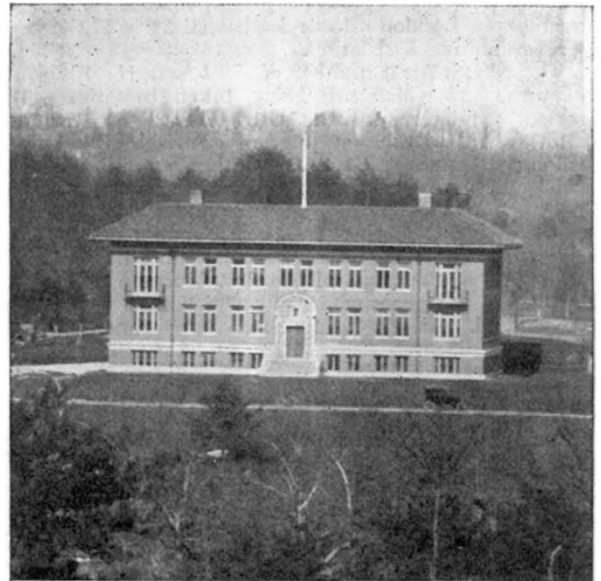
We have to acknowledge the receipt of a copy of a paper from the March number of the *Ottawa Naturalist*, by Dr. C. G. Hewitt, on local bird-protection; also of a catalogue of more than 1400 publications on ornithology offered for sale by Messrs. John Weldon, 38 Great Queen Street, London, W.C. R. L.

TERRESTRIAL MAGNETISM.

THE present activity of the department of terrestrial magnetism of the Carnegie Institution of Washington and the largeness of its future aims are alike illustrated in the annual report for 1913, by the director, Dr. L. A. Bauer, and in a "progress report" which he contributes to the latest (March) number of *Terrestrial Magnetism*. The department, which has lately entered on its eleventh year, has under construc-

tion new buildings at an estimated cost, including site and equipment, of about 25,000. The main structure, which is already completed, is shown in the accompanying figure. It has a length of 102 ft., a width of 52 ft., and from basement to roof a height of 62 ft. Besides ample accommodation for observers and computers, engaged on the reduction and discussion of observations, it includes several laboratories, an instrument-maker's shop, and store places for instruments. A detached building for tests and researches requiring a non-magnetic environment will shortly be completed.

Of late years the energies of the department have been mainly devoted to a magnetic survey of the earth, including the oceans. In the financial year which ended on October 31, 1913, the expenditure of the department, apart from building, reached 22,000. In addition to important work at sea by the surveying vessel *Carnegie*, it had land observations in progress in many quarters of the world. One party observed at seventy-two stations in the Sahara between Algiers and Timbuctoo. Another party in Australia observed in Queensland, Victoria, and New South Wales. A



Main building of the Department of Terrestrial Magnetism, Carnegie Institution of Washington.

third journeyed some 2000 miles by canoe in remote parts of Canada. South America engaged three parties, observing in Peru, Bolivia, Chile, Venezuela, British Guiana, Brazil, Argentina, Paraguay, and Uruguay. It is expected that by 1915 data will have been obtained adequate for the construction of satisfactory magnetic charts for the epoch January 1, 1910, extending from 50° N. to 50° S. latitude.

The work of the department is not confined to terrestrial magnetism. In future more attention is to be given than in the past to atmospheric electricity. Dr. W. F. G. Swann, late of Sheffield University, has been engaged as chief physicist, and is devoting special attention to this subject. One of the objects to which much attention continues to be devoted is the improvement of magnetic instruments. Dr. Bauer's article in *Terrestrial Magnetism* is largely devoted to a discussion of the degree of accuracy reached with existing types of magnetometers, and the prospects of obtaining superior results with electrical methods of measuring the direction and intensity of the earth's field. While