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Photo by J. C. Munro, Pretoria.

Top Row: Dr. L. Gough; J. C. JOHNSTONE; C. W. HOWARD, B.A.; I. B. POLE EVANS, M.A.; C. MCG. JOHNSON; A. DUNCAN; NEWTON SPICER,

Bottom Row: C. B. HORSBRUGH; J. A. S. BUCKMILL, M.A., F.Z.S.; E. M. SKEA; J. W. B. GUNNING, M.D., F.Z.S.; F. J. ELLEMER; A. K. HAAGNER, F.Z.S., M.B.O.U.;
(*Hon. Sec. & Treasurer*),
(*Editor*).

B. C. R. LANGFORD.

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THE JOURNAL

OF THE

SOUTH AFRICAN ORNITHOLOGISTS' UNION.

VOLUMES I. & II.

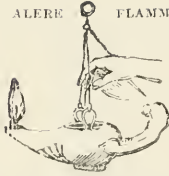
~~(NEW SERIES)~~

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PROCEEDINGS OF THE UNION.

REPORT OF THE THIRD ANNUAL MEETING.

THE Third Annual General Meeting of the Union was held in the Transvaal Museum, Pretoria, on the 25th August, 1906. The Meeting, which took place at 3 P.M., was preceded by a luncheon at the Grand Hotel, Pretoria, covers being laid for about thirty.

Amongst the guests of the Union present at the luncheon were His Worship the Mayor of Pretoria (Mr. J. G. VAN BOESCHOTEN), Mr. F. BRAYBOOKE SMITH, M.L.C. (Director of Agriculture for the Transvaal), and Dr. THEILER (Principal Veterinary Bacteriologist to the Transvaal Department of Agriculture).

Mr. J. E. ADAMSON, M.L.C. (Director of Education for the Transvaal), and Mr. R. KELSEY LOVEDAY, M.L.C., were also invited, but were unable to be present, owing to absence from Pretoria.

An excellent collation was provided, and the tables were most tastefully arranged, the production by the talented chef of several elaborate representations of a variety of species of birds—apparently hitherto undescribed—being a most appropriate feature of the decorations. The menu cards consisted of a series of six artistic designs of bird-life from original drawings by Mr. C. B. HORSBRUGH, specially executed for the luncheon.

In the absence of the President of the Union (Mr. W. L. SCLATER) the Chair was taken by Dr. J. W. B. GUNNING, one of the Vice-Presidents of the Union and Director of the Transvaal Museum and Zoological Gardens.

At the conclusion of the luncheon, and after the loyal toasts had been duly submitted, the Mayor of Pretoria proposed the health of the Union and its Members. He said that he always regretted that a very busy life had prevented

him from making a close study of ornithology, but that, although he himself could not claim any exact knowledge of the scientific aims of regular students in the science, he knew that the work done by such associations as the South African Ornithologists' Union was both of scientific and practical value, and the more so in a country such as South Africa, where the economic value and danger of different species of birds were so little understood. He desired to wish the Union every prosperity and a long period of existence in which to continue and carry, if possible, to a successful conclusion the work for which it was founded.

In response to this toast the CHAIRMAN, after thanking the Mayor for his congratulatory remarks upon the Union's work and for having spared some of his valuable time in which to join the Union at its Annual gathering, said that he also welcomed the presence of the Director of Agriculture, whose department was so very intimately connected with one important side of the work of the Union. The Union was as yet a very young child, with its objects and aims still imperfectly defined or understood, but if its labours were carried out upon the lines of similar and older established associations, it could scarcely avoid being of substantial benefit both to science and to agriculture. So far the only definite production of the Union had been its Journal, in connection with which he desired to mention particularly the names of Messrs. Bucknill and Haagner.

Ornithology had during the last year sustained the loss of some of its oldest and most renowned students. Canon Tristram, Jean Cabanis, Dr. Fatio, M. Oustalet, and the young and brilliant Von Erlanger were men familiar to all naturalists throughout the world; their loss was irreparable, but their names and their work would endure. Much valuable addition had been recently made to the study of South African Ornithology during the twelve months by the publication of several important volumes dealing with the avifauna of this country; Professor Reichenow's German work on the Birds of Africa was recently completed, whilst further instalments of Captain Shelley's monumental volume on the same subject

were being frequently issued. It was much to be regretted that the President of the Union, Mr. W. L. Selater, whose concluding volume in the series 'The Fauna of South Africa : Birds' had recently come from the press, had now given up his post as Director of the South African Museum, Cape Town, and had left this country to reside in England ; not only did this action cause him to resign from the Presidency of the Union, but it was a loss to ornithologists in this country, as his work, knowledge, and energy were certainly unequalled by any other resident ornithologist. These losses, however, it was the duty and the hope of the Union to fill, and from the younger generation of enthusiastic students now coming to the fore it was to be hoped that there would be found some who might in some degree worthily follow in the footsteps of those who had preceded them.

Mr. J. A. S. BUCKNILL, M.A., F.Z.S., M.B.O.U. (Joint Editor, Journal S.A.O.U.), also responded to the toast on behalf of the Editorial Committee of the Journal. He said that the side of ornithology which perhaps enlisted the widest sympathy was the practical side relating to the harm or utility of birds in their relation to agriculture. Whilst many reports had already been received by the Editors of the Union's Journal as to the depredations amongst the crops caused by various species of birds, it was, on the other hand, a well-known fact that many birds of beauty and note which were formerly deemed to be harmful were, as a matter of fact, of utility and value in the destruction of the insect pests which were one of the farmer's curses in this and other countries.

South Africa presented an enormous field for useful study both on this and on the more scientific side of ornithology. Little or nothing was known as to the migratory movements of birds—whence they come, why they move and where they go ; there were, doubtless, also many new species still unrecorded and undescribed, whilst the habits and eggs of even many common birds in South Africa were still quite unknown. Systematic ornithologists all over the world were now attempting to find out many interesting facts, such as the common origin of birds, the relationship those of different

origins bear to each other, and the proper place which should be assigned to different species in the great theory of evolution which was the accepted zoological hypothesis of the present time. The Union had had little chance as yet to foster the more scientific side of ornithology or to collect sufficient data for generalization, but its foundation might have the effect of, to some extent, doing away with that lack of desire hitherto shown in South Africa to devote time to the advancement of such a non-material science as ornithology and kindred natural history subjects. Speaking for himself, he felt that to the retiring President of the Union the thanks of all ornithologists were due for having presented to them a comparatively cheap form of working handbook upon which students could base their future observations. He added that in future he hoped that it would be possible to hold the Annual Meeting of the Union in conjunction with the Meetings of the South African Association for the Advancement of Science.

Mr. LANGFORD proposed the health of the visitors, in reply to which Mr. F. B. SMITH (Director of Agriculture) responded. He said that it gave him great pleasure to be present at the Union's Meeting; Agriculture, of which he was locally the official representative, owed to ornithologists in all parts of the world an enormous debt of gratitude, and the investigations of ornithologists would always have the hearty support of the Agricultural Department of the Transvaal. Almost every branch of natural history touched agriculture more or less directly, and whilst perhaps South Africans had been in the past somewhat too material in their aims, the foundation of a Union such as the South African Ornithologists' Union, the members of which devoted much of their leisure to the pursuit of a delightful hobby, was a good augury for the future. The study of birds—many of them beautiful creatures renowned in prose and poetry—might well be included in that liberal education which he would advocate for every person and even child in this country. Upon the detailed work of members of bodies such as this Union the great naturalists of the day built up the splendid edifices of scien-

tific theory and practical results which were of lasting and immeasurable benefit to the public. In conclusion, he wished to compliment the Society upon the excellence and accuracy of its Journal, which he hoped would continue to be issued with the same care as had hitherto been bestowed upon it.

An adjournment was then made to the Museum Buildings, and after a group-photograph of the Members of the Union present had been taken (*vide* Frontispiece), the official business of the Meeting was proceeded with.

There were present, amongst others: Dr. J. B. GUNNING, F.Z.S. (a Vice-President of the Union and Director of the Transvaal Museum and Zoological Gardens), who occupied the Chair, Messrs. F. J. Ellemor and A. Duncan of Johannesburg, Mr. C. McG. Johnston of Bloemfontein, O.R.C., Mr. A. Haagner, F.Z.S., M.B.O.U. (Hon. Secretary), of Modderfontein, Transvaal, and Messrs. Newton Spicer, J. A. S. Bucknill, M.L.C., M.A., F.Z.S., M.B.O.U. (Joint Editor), C. W. Howard, B.A., J. B. Pole-Evans, M.A., C. B. Horsbrugh, B. C. R. Langford, E. M. Skea, J. C. Johnstone, Dr. Lewis Gough, Ph.D., C.B., and C. B. Simpson, B.S. (Idaho), A. M. (Cornell) of Pretoria.

The Minutes of the Second Annual General Meeting held on the 30th August, 1905, were read and confirmed.

The Hon. Secretary and Treasurer (Mr. A. K. HAAGNER) presented his Annual Report and Statement of Accounts for the year 1905, both of which were adopted on the motion of Mr. SPICER seconded by Mr. ELLEMOR. Mr. C. B. HORSBRUGH was appointed to audit the Treasurer's balance-sheet. In the course of his statement the Secretary mentioned that 107 Members in all had been admitted as Members of the Union, of whom 4 had resigned and 1 would be transferred to the Honorary List. Two issues of the Journal had been published in 1905, costing, including process-blocks and postage, £34 17s.

The Election of Officers of the Union then took place.

The resignation of the President (Mr. W. L. SCLATER) was formally reported and received.

In accordance with the provisions of Rule 10, the Members

of the Publication Committee. Messrs. W. L. SCLATER, J. A. S. BUCKNILL, and Dr. J. W. B. GUNNING, having held office for the prescribed period of three years, tendered their resignation.

The officers of the Union for 1907 were elected as follows:—

<i>President</i> . . .	J. A. S. BUCKNILL, M.L.C., M.A. (Oxon.), F.Z.S., M.B.O.U.
<i>Vice-Presidents</i> . . .	{ Dr. J. W. B. GUNNING, F.Z.S. (Director of the Transvaal Museum and Zoological Gardens). Professor J. E. DUERDEN, Ph.D. (Professor of Zoology, Rhodes University College, Grahamstown, Cape Colony). Dr. E. SYMONDS, L.R.C.P., M.R.C.S., Kron- stad, Orange River Colony.
<i>Hon. Treasurer</i> . .	NEWTON SPICER, Lands Department, Pre- toria, Transvaal.
<i>Hon. Secretary</i> . .	A. K. HAAGNER, F.Z.S., M.B.O.U., Dyna- mite Factory, Modderfontein, nr. Johan- nesburg.
<i>Members of Council</i>	{ JOHN WOOD (Cape Colony). A. D. MILLAR, Col.M.B.O.U. (Natal). A. DUNCAN (Transvaal). G. A. K. MARSHALL, F.Z.S., F.E.S. (Rhodesia). C. MCG. JOHNSTON (Orange River Colony). J. P. MURRAY (Basutoland). C. POGGÉ (German South-West Africa).

Rules 6 and 11 were duly altered to meet the enlargement of the Council.

In Rule 6, paragraph (*f*), which reads—

“Five Members of the Association not holding any of the above offices,” the word “Five” was deleted and the word “Seven” inserted.

In Rule 11, which reads—

“The five unofficial members of the Council shall be the representatives from the Cape Colony, Natal, Orange River Colony, Transvaal, and Rhodesia respectively,”

the word "five" was deleted and the word "seven" inserted: after the word "Transvaal" the words "Basutoland, German South-West Africa," were inserted.

In accordance with Rule 10, the following three Members of the Union were appointed as the Publication Committee for the years 1907, 1908, and 1909 :—

J. A. S. BUCKNILL.
 Dr. J. W. B. GUNNING.
 A. K. HAAGNER.

The election by the Council of Professor ALFRED NEWTON, F.R.S., &c., of Cambridge University, England, as an Honorary Member was confirmed.

The retiring President, Mr. W. L. SCLATER, was unanimously elected an Honorary Member.

The following gentlemen having been duly proposed and seconded were elected Ordinary Members of the Union :—

Mr. THEODORE BELL; Epsom, Surrey, England.
 Mr. C. W. COOPER; Salisbury, Rhodesia.
 Mr. MAX COCH; Reitfontein Lazaretto, Johannesburg.
 Dr. D'EVELYN; San Francisco.
 Mr. H. G. R. FISCHER; Bloemfontein, Orange River Colony.
 Mr. H. GRÖNVOLD; Natural History Museum, South Kensington.
 Capt. C. W. GORDON; Cape Town.
 Lieut. PHILIP HAMOND; Norfolk, England.
 Mr. C. MCG. JOHNSTON; Bloemfontein, O.R.C.
 Capt. A. C. H. JONES; Bloemfontein, O.R.C.
 Hon. Mr. H. F. WILSON, C.M.G.; Colonial Secretary, O.R.C.
 Mr. BEDVER JACKSON; Bloemfontein, O.R.C.
 Mr. J. C. JOHNSTONE; Pretoria, Tvl.
 Mr. T. H. NEWMAN, F.Z.S.; Middlesex, England.
 Lieut. STANLEY PERSHOUSE; Middleburg, Tvl.
 Herr C. POGGÉ; German South-West Africa
 Mr. D. SETH-SMITH, F.Z.S.; London, England.
 Mr. C. H. TAYLOR; Indlhovodwalilie, Amsterdam, Tvl.
 Rev. R. S. TABOR; 64 St. George's Square, London, England.
 Mr. F. THOMSON; Pretoria, Tvl.
 Major F. VAUGHAN-KIRBY, F.Z.S.; Lydenburg, Tvl.

Mr. A. R. WOOD, A.R.M. ; Wepener, O.R.C.

Dr. L. GOUGH, Ph.D. ; Transvaal Museum, Pretoria.

Dr. WALKER ; Asst. Medical Officer of Health, Pretoria, Tvl.

Dr. ABERCROMBIE ; Pretoria, Tvl.

Mr. F. O. NOOMÉ ; Pretoria, Tvl.

Mr. J. G. VAN BOESCHOTEN ; Pretoria, Tvl.

Mr. F. T. NICHOLSON ; Pretoria, Tvl.

After some discussion it was unanimously agreed that the name of the Journal should remain unaltered. The frequency of issue of the Journal and the possibility of arranging for its local production was left to the consideration and discretion of the Publication Committee.

The formation of sub-committees to deal with the important questions of migration, geographical distribution, and bird-protection were the subjects of lengthy deliberation and discussion, and a considerable number of letters were read from Members of the Union, who were unable to be present at the Meeting, expressing their views on these matters.

It was resolved that an effort should be made during the forthcoming year to obtain co-operation amongst members of the Union and others in connection with the exact observations of certain species of migratory birds in order to endeavour to trace the lines of migration of certain species. It was thought that the Transvaal Museum offered a suitable centre as a bureau for a collection of whatever information might be obtained, and Dr. Gunning promised that the results of such information, when sufficiently important, would be collated by his staff in a form suitable for publication in the Journal.

The geographical distribution of birds would also to a certain extent be investigated by the above indicated scheme.

The question of bird-protection was the subject of an interesting debate, and a sub-committee, consisting of Dr. Gunning and Messrs. Simpson, Horsbrugh, and Vaughan-Kirby, was elected to collect information and report upon the possible protection of useful species, the reduction in numbers of harmful species, and the prevention of indis-

criminate importation of foreign birds, such as the European House-Sparrow and Starling.

In connection with these two latter species, Dr. GUNNING expressed considerable fears as to their early extension of range throughout South Africa, and also stated that, as an instance of curious change of habits, he had been informed on indubitable evidence that some Vultures, presumably *Gyps kolbi*, have recently begun to prey upon living animals, such as newly-lambled ewes and their young.

The CHAIRMAN then delivered the following address :—

GENTLEMEN,—

I have been asked to give you a short address on the recent Ornithological additions to the Museum, but there is so little time at my disposal that I fear I must be very brief. There are a few valuable additions which I hope to enumerate later on. I have prepared a list of all South African birds which are at present in the Museum, both mounted as well as unmounted, which I hope may shortly be printed either in the first number of the 'Annals of the Transvaal Museum' or in our Union's Journal. Another list of the South African birds which are or have been domiciled in our Zoological Gardens is in course of preparation; and the two combined lists will form a complete enumeration of all South African birds which have come under our observation during the past six years. The oological collections have been lately enriched very materially by the acquisition of the fine collection made by Mr. Ivy, of Grahamstown, C.C.; and within a short time South African ornithologists will, it is hoped, be enabled to see at a glance what forms are here available for study, and can also see which species are still unrepresented. With this knowledge, the National collections will be no doubt augmented greatly by the assistance of all South African students of ornithology, who of course earnestly desire the presence here of full and proper means for pursuing their work.

For some considerable time past I have endeavoured to

obtain further information as to the localities in which South African birds may be found ; but what I have at my disposal is, as yet, exceedingly incomplete. Of course we have old books, like Le Vaillant's, which is extremely interesting in itself ; but when we realize that the Crowned Pigeon of New Guinea is in it included in the list of South African birds, we are reminded that we have to take the information given in works such as these with a certain amount of discretion. The one-time standard work of Layard and Sharpe gives much more concise and trustworthy information ; but being printed between the years 1875-1884, it is now out of date and contains no information about the very large amount of work carried out since that time. We now, however, have Shelley's beautiful book on the 'Birds of Africa' and Reichenow's standard work on 'Die Vögel Africas.' The former is not yet complete. Both works deal with the whole of Africa, but owing to their large size and considerable cost they are not within the reach of or useful to all, especially those persons who do not study ornithology as a speciality, but have taken it up as a most charming hobby for their spare time.

Lastly comes the valuable work of Dr. Stark, so ably continued and finished by our esteemed friend and late President, W. L. Selater. This book should be in the hands of all of you, and it gives a good *description* of the birds found in the Southern part of this Continent. It suffers, however, from one very important omission, and it shares this fault with most, if not all, the lists of birds published by the different museums in South Africa: I refer to the omission of dates. It concerns the student of ornithology very little to know that a certain specimen has been purchased by or presented to a particular museum ; but it matters very much to learn in what month this specimen was secured. You will notice, Gentlemen, that the point to which I refer especially is the migration of birds within the limits of South Africa. In order to understand our ornithological Fauna, it is absolutely essential that we should have a clear understanding about the migration of our birds. Very little is

published about this important subject in connection with South Africa. In Selater's work we find, under the description of each species, the words: "the following are the recorded localities"; the names of those localities are given, but only in a few cases is the date recorded at which the specimens were observed or secured.

Now I have interviewed several of our leading local ornithologists about this question, and have asked them whether they could inform me if such and such a bird migrates north, south, east, or west; whether from the highveld to the bushveld, or *vice versa*; whether certain birds migrate every year, or migrated in one year and were more stationary in other years, under perhaps more favourable climatic and meteorological conditions. I am sorry to say that my own ignorance on this subject was not only not relieved, but I received so often such absolutely contradictory evidence and information that I have come to the conclusion that South African ornithologists have overlooked this subject altogether, and are hopelessly incapable at present of giving much reliable information.

You will all agree with me that it is not only desirable, but absolutely imperative, that we should try to make an end to this most unsatisfactory state of affairs. The only way out of the difficulty is to follow the example set by Hungary in this matter—the mode of operation being explained by Otto Herman, the Director of the Hungarian Central Office of Ornithology, in his yearly report. In 1898 more than 5900 masters of elementary schools and others also interested in the subject decided to observe the arrival of the Swallows and to report the result of their observation to the Central Ornithological Office. These observers, in all more than 6000 in number, covered the whole area of Hungary very effectually. They sent in their data on special postcards; the points of observation were geographically determined, and daily separately schematized on particular card maps.

In the same way I should like to cover South Africa. I should like to circularize all the Members of the Union, and all others known to be interested in Ornithology in

South Africa, asking them to distribute circulars and post-cards to all teachers in the different districts of the various Colonies in South Africa, urging them to cooperate. All that they would have to do is to note on these postcards once a day, or even once a week, which species of birds come under their observation, dead or alive, and to send those postcards to me as soon as filled in—say, once a week, or once a month. By comparing all these many reports it would be possible to determine respectively the last and the first day of observation of a certain species in a certain area; and by continuous records we might be able to discover which birds are migrating, in what directions they migrate, and when they return to their old haunts.

Many of you must also have noticed that some species are much more common during one summer than during the next. I remember that three years ago hundreds of *Ortygospiza polyzona* (Bar-breasted Weaver Finch) were offered for sale by boys who caught them in the neighbourhood of Pretoria, whilst in the following year hardly a single specimen was seen. The same is the case with the Blue-breasted Waxbill, the Latham's or the Red-billed Weaver Bird, the Black-faced Waxbill, and the Common Waxbill. Four years ago we received a large number of *Pyrrhulauda verticalis* (Grey-backed Lark), the following two years none; last year, all of a sudden, they were again plentiful, whilst not one has come under my observation during this year. These phenomena must have causes; and I think it is entirely within the scope of our Union to find out these causes and effect practical work of this character.

It is a well-established fact that meteorological conditions have an enormous influence on the migration of birds, and it is therefore exceedingly desirable that notes should be taken and entered upon the cards as to the direction of the wind, prevalence of rain, &c., when the entries are being made. The task is not a light one, and can only be accomplished by the diligent cooperation of all those that are interested in this fascinating subject; and I believe that the small amount of money which would be necessary for the printing of these

circulars and cards and for postage would be well spent in attempting to solve those questions.

Gentlemen, I need not assure any of you that it will be a great pleasure to me to identify any specimens you may capture or shoot if they are sent to me, and, as it is necessary that we should have absolutely correct records, if the distance may prevent the sending of the whole body of the bird, the head, the feet, the wings, and the tail need only be forwarded. All parcels addressed to the Director of the Transvaal Museum are conveyed free by rail if labelled "Specimens of Natural History." I would also like to remind those who wish to assist in a serious way, of the importance of making an accurate note of the colour of the iris and soft parts, and to distinguish, when possible, between old and young specimens and also between the sexes. I find the iris of one species described in one book as light brown, in another as dark brown, in a third as hazel, in a fourth as brownish yellow, and in a fifth as red ! It is therefore of some interest and importance to renew these observations and to record them carefully. A last remark, before inviting you to an inspection of our collections of birds and eggs, would be to request you to open the crops of all birds coming under your observation. There is still great uncertainty as to the principal food of very many common birds in different seasons of the year, and I need not remind you of the importance of correct knowledge on this point, especially in view of the close relationship in which birds may stand to agricultural pursuits.

A vote of thanks was passed to the retiring Editors and to Dr. Gunning for his remarks and for the able and genial manner in which he had presided over the Congress.

The Members of the Union then inspected the Museum and the Taxidermists' Laboratory, and with this visit terminated an extremely pleasant and satisfactory meeting.

A number of interesting specimens were exhibited during the meeting, amongst which may be mentioned the albino collection of the Museum, including several curious varieties

of Knorhaan, a remarkable albino of *Erythropygia pæna* (Smith's Ground Robin), and an extraordinary cinnamon-coloured variety of *Colius striatus minor* (?) (Natal Speckled Mouse-Bird), shot near Lydenburg by Major Vaughan-Kirby on April 10th, 1906.

A complete nest of *Gyps kolbii* (?) in a tree, with two live half-fledged young, recently brought in by a farmer from the Rustenburg district, attracted much attention.

Mr. DUNCAN exhibited the skin of a female *Amadina fasciata* believed to have been obtained in the Transvaal, and, if so, new to South Africa : and Mr. BUCKNILL a short series of *Laniarius olivaceus* and *rubiginosus* obtained by Mr. C. H. Taylor at Amsterdam, Transvaal.

LIST OF PAPERS
PUBLISHED IN THIS JOURNAL.

- I. Presidential Address delivered at Inaugural Meeting of the Union. By W. L. SCLATER, M.A., F.Z.S., M.B.O.U., President S.A.O.U., Director S.A. Museum, Cape Town. [Vol. I. No. 1, pp. 1-8.]
- II. Supplementary Notes on the Nesting-Habits and Eggs of certain South African Birds described in Stark and Sclater's 'South African Fauna.' (Birds, vols. i., ii., and iii.) By RICHARD SPARROW, M.B.O.U., Major 7th Dragoon Guards. (Communicated to and prepared for publication by Mr. A. HAAGNER; with some Notes by the latter.) (Plates I. & II.) [Vol. I No. 1, pp. 9-18.]
- III. Notes on the Nest and Eggs of *Coliopasser ardens* (Red-collared Widow Bird). By F. J. ELLEMOR. (Plate III.) [Vol. I. No. 1, p. 18.]
- IV. Birds collected and observed round Hanover, Cape Colony, from July 20th to the end of September, 1903. By GUY C. SHORTRIDGE. [Vol. I. No. 1, pp. 18-31.]
- V. A Visit to a Breeding Colony of *Ibis aethiopica* (Sacred Ibis). By AUSTIN ROBERTS. [Vol. I. No. 1, pp. 32 & 33.]
- VI. Notes on the Water-Birds of the Zwaartkops River, Port Elizabeth, Cape Colony. By JAMES G. BROWN. (Plate: Frontispiece.) [Vol. I. No. 2, pp. 40-48.]

- VII. A further Contribution to the Ornithology of Modderfontein, Transvaal. By ALWIN K. HAAGNER, F.Z.S., M.B.O.U. [Supplementary to three papers previously published: *q.v.* 'Ibis,' 1901, pp. 15 & 190; *ibid.* 1902, p. 569.] [Vol. I. No. 2, pp. 48-56.]
- VIII. Notes on the Genus *Pyromelana* (Bishop Birds), with reference in particular to the Seasonal Changes of Plumage and Nidification in Captivity of *P. oryx* (Red Bishop Bird). By A. DUNCAN. [Vol. I. No. 2, pp. 57-61.]
- IX. Remarks upon some hitherto undescribed or unfigured Eggs of certain South African Passerine Birds. By JOHN A. BUCKNILL, M.A., F.Z.S., and G. H. GRÖNVOLD. With Field-notes by the Collectors. (Coloured Plate: Frontispiece.) [Vol. II. No. 1, pp. 1-10.]
- X. Ornithological Notes from Wolmaransstad, Transvaal. By AUSTIN ROBERTS. [Vol. II. No. 1, pp. 10-14.]
- XI. The Migration of Birds in South Africa: a paper read before Section D of the British Association during its Meeting at Johannesburg in 1905. By W. L. SCLATER, M.A., F.Z.S., M.B.O.U. [Vol. II. No. 1, pp. 14-24.]
- XII. (a) Notes on some Migratory Visitants to Kroonstad, Orange River Colony.
 (b) Notes on some Members of the Family *Ploceidæ* occurring in the Kroonstad District, Orange River Colony.
 By EDMOND SYMONDS, M.R.C.S., L.R.C.P. [Vol. II. No. 1, pp. 24-29.]
- XIII. Some Observations upon the Behaviour and Treatment in Captivity of *Otis carulescens* (Blue Knorhaan). By C. B. HORSBRUGH. (Plate I.) [Vol. II. No. 1, pp. 29-32.]
- XIV. Ornithological Notes from Natal. By ALFRED D. MILLAR, Col.M.B.O.U. [Vol. II. No. 1, pp. 32-35.]

- XV. Notes on the Nidification of the Genus *Chrysococcyx*.
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Photo by A. D. Millar, Durban.

NEST OF LESSER PUFF-BACK SHRIKE (*Dryoscopus cubla*).

P R E F A C E.

THE Committee to which the editorial functions of the SOUTH AFRICAN ORNITHOLOGISTS' UNION have been entrusted feels the greatest pleasure in the issue of this the first number of the Journal of the Society.

It is sincerely hoped that this volume may be the precursor of a long series, useful alike to the student of South African Avifauna and to Ornithologists throughout the world.

The object of the Journal is to promote and foster the study of a branch of science which, perhaps more than any other, combines pleasure and physical and mental exercise with practical and scientific utility.

The only apology which it is felt must be made at this first issue is one which must be tendered not only by the Editorial Committee but by all South Africa—namely, that it is the first.

W. L. SCLATER.

J. W. B. GUNNING.

J. A. BUCKNILL.

1st March, 1905.

REMARKS RELATING TO THE FORMATION OF THE UNION.

THE utility and value, both to science and agriculture, rendered by the numerous ornithological unions which have at different times been formed in several countries for the purpose of promoting the study of ornithology, suggested some years ago to the minds of local students the desirability of establishing a South African Association with similar aims and objects.

Although thought of prior to the war, the foundation of the Union was not effected until 1904 when the occasion of the visit to Johannesburg of the South African Association for the Advancement of Science in April of that year was seized upon as an opportune time for the calling of a meeting to consider the project. The credit of this first step lies largely with the present Honorary Secretary (Mr. A. K. Haagner, M.B.O.U.), who was the chief mover in the issue of a circular to all prominent South African Ornithologists, giving them notice of the suggested meeting and asking for an expression of opinion for or against the formation of such a society.

The response to this letter of invitation was of a gratifying character, some 40 persons, numbering amongst them all the best-known local students of South African Ornithology, unanimously deciding in favour of the proposed Union.

The Inaugural Meeting was accordingly held on the 8th April, 1904, at Johannesburg, and the following is a report of what took place.

REPORT OF INAUGURAL MEETING OF THE SOUTH AFRICAN
ORNITHOLOGISTS' UNION.

A CONFERENCE of South African Ornithologists was held on the 8th April, 1904, at the Normal School, Johannesburg, Transvaal, at 6 P.M. There were present, amongst others:— W. L. Sclater, M.A., F.Z.S., M.B.O.U. (Director of the South African Museum, Cape Town); Dr. J. W. B. Gunning, F.Z.S. (Director of the Transvaal Museum and Zoological Gardens), Messrs. C. S. Aitcheson, J. A. Alexander, F.R.S.E., S. H. Boyle, J. A. Bucknill, M.A., F. J. Ellemor, A. Haagner, M.B.O.U., A. O. Pittar, W. J. Powell, and C. C. Roberts.

Mr. W. L. SCLATER was unanimously voted to the Chair, and in his opening remarks stated the reasons for the holding of the Meeting.

He said that, although the date of the conference was propitious in view of the visit of so many scientific men to the town, it could not be expected that every individual interested in the Avifauna of South Africa could be present; but Mr. Haagner had taken the trouble to endeavour to ascertain, as far as possible, what was the general feeling amongst local ornithologists as to the possibility and desirability of forming a South African Ornithologists' Union. He asked Mr. Haagner to give the Meeting some account of what had already been done by him in this direction.

Mr. HAAGNER stated that, in response to a circular issued by him, 40 gentlemen had handed in their names as desirous of becoming Members of the Union if such was formed, and

that these included all the leading local students of ornithology. Of these replies, 21 came from the Transvaal, 12 from Cape Colony, 4 from Natal, 2 from the Orange River Colony, and 1 from Rhodesia. The list of names was read.

The following resolution, proposed by Dr. GUNNING and seconded by Mr. BUCKNILL, was unanimously carried :—

“That a South African Ornithologists’ Union be formed, and that a Committee be appointed to frame rules and decide upon the possibility of publishing a Journal.”

The Committee was then nominated and elected, consisting of MESSRS. SCLATER, BUCKNILL, ALEXANDER, ELLEMOR, HAAGNER, and Dr. GUNNING.

A vote of thanks to the Chairman closed the proceedings of the Meeting.

Mr. SCLATER then read an Inaugural Address, which will be found printed in this volume.

PROCEEDINGS OF THE UNION.

REPORT OF FIRST ANNUAL MEETING.

THE First Annual General Meeting of the Union was held in Pretoria in the Directors' Room of the Transvaal Museum (by kind permission of Dr. Gunning) at 4 P.M. on the 24th September, 1904. Owing to the visit of H.R.H. Princess Christian of Schleswig-Holstein to the adjoining Zoological Gardens, the attendance was, unfortunately, very small. There were present Messrs. J. Burt Davy, F.L.S., Newton Spicer, B. Langford, E. Skea, L. E. Taylor, C. B. Horsbrugh, F. J. Ellemor, L. Griffin, and A. Haagner, M.B.O.U. Mr. J. BURTT DAVY was elected to the Chair. The Minutes of the Inaugural Meeting were read and passed. Mr. HAAGNER reported that the Committee appointed at the Inaugural Meeting had drawn up Rules for submission and confirmation, and that the Officers of the Union had been elected by ballot of the Members by means of correspondence. Thirteen new Members had applied for admission to the Union, thus bringing the number up to 53.

On the motion of Mr. SPICER, seconded by Mr. LANGFORD, Mr. Haagner's Report was adopted.

The Draft Rules were then read and discussed. Rules 4 and 13 were amended, and, on the motion of Mr. HAAGNER, seconded by Mr. SPICER, were finally adopted in their entirety.

The election of office-bearers, with their proposers and seconders, were, on the motion of Mr. GRIFFIN, seconded by Mr. HORSBRUGH, unanimously confirmed by the Meeting.

Some discussion took place as to the name and scope of the proposed Journal, and it was proposed by Mr. SKEA, seconded by Mr. ELLEMOR, that its name should be "THE OSTRICH: A JOURNAL OF SOUTH AFRICAN ORNITHOLOGY." This motion was passed.

The question as to whether the columns of the Journal should be open to matters other than Ornithology was left to the Council.

It was resolved that

“An Illustration Fund for the Journal should be inaugurated, to which voluntary contributions might be invited.”

The following gentlemen were elected Honorary Members :—Dr. P. L. Selater, F.R.S., Dr. R. Bowdler Sharpe, Capt. G. E. Shelley, F.Z.S., Dr. Anton Reichenow, and Mr. Roland Trimen, F.R.S, F.Z.S.

A vote of thanks to the Chairman concluded the Meeting.

RULES OF THE UNION.

Name.

(1) This Association shall be called “The South African Ornithologists’ Union.”

Object.

(2) The object of the Association shall be the advancement of the science of Ornithology, and in particular of South African Ornithology.

Members.

(3) The Association shall consist of

- (a) Honorary Members.
- (b) Ordinary Members.

Honorary Members.

(4) Any person of ornithological eminence NOT resident in South Africa is eligible for election as an Honorary Member. The number is limited to 10.

Ordinary Members.

(5) Any person desirous of becoming a Member of the Association is eligible for election as an Ordinary Member.

Management of the Association.

(6) The affairs of the Association shall be controlled by a Council composed of

- (a) A President.
- (b) Vice-Presidents.
- (c) A Treasurer.
- (d) A Secretary.
- (e) A Publication Committee.
- (f) Five Members of the Association not holding any of the above Offices.

Annual General Meeting.

(7) A General Meeting of all Members of the Association shall be held ANNUALLY at such place and on such date as the Council may deem expedient. Due notice in writing of such Meeting shall be given by the Secretary to all Members of the Association.

Election of Officers.

(8) The election of Officers and Councillors shall take place at the Annual General Meeting. Any Member of the Association resident in South Africa is eligible for election to any Office or on the Council. Save as provided by the provisions of Rule 10, all Officers and Members of the Council retire annually, but are eligible for re-election.

Election of Council.

(9) Any candidate for any Office or for Membership of the Council must be duly proposed by one and seconded by another Member of the Association. Every Member of the Association present at the Meeting shall have one vote, and in the case of absent Members their proxies may be used. Honorary Members have no vote.

Publication Committee.

(10) The Publication Committee of the Association shall consist of three Members, elected as above, but for a period of three years.

Unofficial Members of Council.

(11) The five unofficial members of the Council shall be the representative from the Cape Colony, Natal, Orange River Colony, Transvaal, and Rhodesia respectively.

Property of Association.

(12) The whole of the property of the Association shall be vested in the Council for the time being.

Powers and Duties of Council.

(13) The Council shall control the working and funds of the Association, shall conduct its business in whatever mode may be most convenient, shall direct the issue of publications, and shall present an Annual Report to the Members of the Association at the Annual General Meeting. The Meetings of the Council shall be called by the President (or one of the Vice-Presidents) and Secretary at such times as are most convenient and expedient. Three Members to form a quorum.

Election of Honorary Members.

(14) Any candidate for Honorary Membership must be proposed by one and seconded by another Member, his candidature must be approved of by the Council, and he can then be elected by the Members at the Annual General Meeting. Honorary Members pay no subscription but are entitled to one copy of all publications of the Association.

Election of Ordinary Members.

(15) Ordinary Members must be proposed by one and seconded by another Member of the Association and can be elected by the Council or by the Members at the Annual General Meeting. Ordinary Members must pay annually in advance a Subscription of £1 1s. 0d., and are entitled, gratis, to one copy of all the publications of the Association.

(16) Notwithstanding anything in any of the foregoing Rules, the Council may, if it thinks it expedient in the interests of the Association, alter or amend any of said Rules at any time, subject to the ratification of the Members at the ensuing Annual General Meeting.

LIST OF OFFICERS AND MEMBERS
AS AT 1ST JANUARY, 1905.

President . . . W. L. SCLATER, M.A., F.Z.S., M.B.O.U.
(Director of the South African Museum,
Cape Town).

Vice-Presidents . . . { Dr. J. W. B. GUNNING, F.Z.S. (Director of
the Transvaal Museum and Zoological
Gardens).
Dr. S. SCHOENLAND, Hon. M.A. (Oxon.),
F.L.S., C.M.Z.S. (Director of the Albany
Museum, Grahamstown, Cape Colony).

Hon. Treasurer . . A. HAAGNER, F.Z.S., M.B.O.U.

Hon. Secretary . . A. HAAGNER, F.Z.S., M.B.O.U.

Editorial Committee { W. L. SCLATER.
Dr. J. W. B. GUNNING.
J. A. S. BUCKNILL, M.A.

Members of Council { F. J. ELLEMOR (Transvaal).
J. WOOD (Cape Colony).
J. G. HATCHARD, F.R.A.S. (Orange River
Colony).
A. D. MILLAR (Natal).
G. A. K. MARSHALL, F.Z.S. (Rhodesia).

No.	Year of Election.	Name and Address.
1	1904	AITCHESON, C. S.; P.O. Box 2641, Johannesburg, Transvaal.
2	„	ALEXANDER, J. A., F.R.S.Edin.; Jeppe Street, Johannesburg, Tvl.
3	„	BAIN, CHAS. A. O.; P.O. Box 267, Johannesburg, Tvl.
4	„	BOURKE, E. F.; P.O. Box 321, Pretoria, Tvl.
5	„	BOYLE, S. H., B.A.; Johannesburg College, Johannesburg, Tvl.

No.	Year of Election.	Name and Address.
6	1904	BRIDGEMAN, Lieut. R. O. B., R.N., M.B.O.U.; H.M.S. 'Clio,' Australian Station.
7	,,	BUCKNILL, JOHN A., M.A.; P.O. Box 52, Pretoria. (<i>Editor.</i>)
8	,,	BUTTERFIELD, W. RUSKIN, M.B.O.U.; 4 Stanhope Place, St. Leonards-ou-Sea, England.
9	,,	CENTER, ROBERT; Southernwood, East London, C.C.
10	,,	CHUTE, Dr. H. M.; Hon. Director Public Museum, Kingwilliamstown, C.C.
11	,,	DAVY, J. BURTT, F.L.S.; Govt. Botanist, Dept. of Agriculture, Pretoria, Tvl.
12	,,	DENDY, ARTHUR, F.L.S.; Professor of Zoology, S. Afr. College, Cape Town, C.C.
13	,,	DOUGLAS, A. E.; Public Works Dept. Stores, Pietermaritzburg, Natal.
14	,,	DRÈGE, J. L.; Secretary Public Museum, Port Elizabeth, C.C.
15	,,	DUNCAN, A.; P.O. Box 1214, Johannesburg, Tvl.
16	,,	EASTWOOD, A. K.; Forest Ranger, Haenertsburg, Tvl.
17	,,	ELLEMOR, F. J.; P.O. Box 1214, Johannesburg, Tvl.
18	,,	FAIRBRIDGE, WM. GEO., M.B.O.U.; 141 Longmarket Street, Cape Town, C.C.
19	,,	FELTHAM, H. L. L., F.E.S.; P.O. Box 46, Johannesburg, Tvl.
20	,,	FRY, HAROLD A.; P.O. Box 46, Johannesburg, Tvl.
21	1905	GRANT, C. H. B.; c/o S. A. Museum, Cape Town, C.C.
22	1904	GRIFFIN, L. T.; Transvaal Museum, Pretoria, Tvl.
23	,,	GUNNING, Dr. J. W. B., F.Z.S.; Director of Transvaal Museum and Zoological Gardens, Pretoria, Tvl. (<i>Vice-President.</i>)
24	,,	HAAGNER, ALWIN K., F.Z.S., M.B.O.U.; Dynamite Factory, Modderfontein, Transvaal. (<i>Secretary.</i>)
25	,,	HATCHARD, J. G., F.R.A.S.; P.O. Box 508, Bloemfontein, O.R.C.
26	,,	HORSBRUGH, C. B.; P.O. Box 449, Pretoria, Tvl.
27	,,	JEPPE, JULIUS; P.O. Box 60, Johannesburg, Tvl.

No.	Year of Election.	Name and Address.
28	1904	KELLNER, Dr. B. O. ; Bloemfontein, O.R.C.
29	"	KIRBY, W. ; Intermed. Pumping Stn., Waterworks, Kimberley, C.C.
30	"	KIRKMAN, Dr. A., Touws River, C.C.
31	"	LANGFORD, B. C. R. ; P.O. Box 557, Pretoria, Tvl.
32	"	LIVINGSTONE, H. ; P.O. Box 63, Fordsburg, Johannesburg, Tvl.
33	"	MACCAUSLAND, D. E. ; Civil Commissioner's Office, Kimberley, C.C.
34	"	MARAIS, F. D. ; P.O. Box 1892, Johannesburg, Tvl.
35	"	MARSHALL, A. ; Curator Public Museum, Port Elizabeth, C.C.
36	"	MARSHALL, GUY A. K., F.Z.S., F.E.S. ; P.O. Box 149, Salisbury, Mashonaland.
37	"	MILLAR, A. D. ; 298 Smith Street, Durban, Natal.
38	"	PEASE, Sir ALFRED E., Bart., F.Z.S., M.B.O.U. ; Barberton, Tvl.
39	1905	PERCIVAL, A. B., F.Z.S., M.B.O.U. ; Nairobi, Br. East Afr. Protec.
40	1904	PITTA, A. O. ; P.O. Box 5627, Johannesburg, Tvl.
41	"	POWELL, W. J. ; "Leader" Office, Johannesburg, Tvl.
42	"	PYM, FRANK A. O. ; Curator Public Museum, Kingwilliamstown, C.C.
43	"	ROBERTS, AUSTIN ; P.O. Box 126, Potchefstroom, Tvl.
44	"	ROBERTS, C. C. ; P.O. Box 1645, Johannesburg, Tvl.
45	"	ROSS, ALEX., F.Z.S. ; P.O. Box 1461, Johannesburg, Tvl.
46	"	SCHOENLAND, Dr. S., Hon. M.A.(Oxon.), F.L.S., C.M.Z.S. ; Director Albany Museum, Grahamstown, C.C. (<i>Vice-President.</i>)
47	"	SCLATER, W. L., M.A., F.Z.S., M.B.O.U. ; Director S. A. Museum, Cape Town, C.C. (<i>President.</i>)
48	"	SHORTRIDGE, GUY C. ; c/o S. A. Museum, Cape Town, C.C.
49	"	SKEA, ERNEST M. ; P.O. Box 373, Pretoria, Tvl.
50	"	SPARROW, Major R., M.B.O.U. ; 7th Dragoon Guards, Rookwoods, Sible Headingham, Essex, England.

No.	Year of Election.	Name and Address.
51	1904	SPICER, NEWTON ; P.O. Box 557, Pretoria, Tvl.
52	1905	STENNING, A. N. ; Trout Acclimatisation Society, Potchefstroom, Tvl.
53	1904	SWINBURNE, JOHN, M.B.O.U ; Haenertsburg, Tvl.
54	"	SWINNY, H. H. ; Qumbu, Griqualand East, C.C.
55	"	SYMONDS, Dr. EDMUND ; Kroonstad, O.R.C.
56	"	TAYLOR, LIONEL E. ; Govt. Nurseries, Irene, Tvl.
57	"	UNKLES, A. P. ; P.O. Naauwte, Zoutpansberg, Tvl.
58	"	WARREN, Dr. E. ; Director Natal Museum, Pietermaritzburg, Natal.
59	"	WOOD, JOHN ; P.O. Box 40, East London, C.C.

Hon. Members.

1	1904	REICHENOW, Prof. Dr. ANTON ; Kgl. Zoologischen Museum, Berlin, Germany.
2	"	SCLATER, P. L., M.A., D.Sc., F.R.S., &c. ; Odiham Priory, Winchfield, Hants, England.
3	"	SHARPE, Dr. R. B., F.L.S., F.Z.S. ; British Museum, London, S.W., England.
4	"	SHELLEY, Capt. G. E., F.Z.S., M.B.O.U. ; 39 Egerton Gardens, London, S.W., England.
5	"	TRIMEN, ROLAND, F.R.S., F.Z.S., &c. ; c/o 11 Chandos Street, Cavendish Square, London, W., England.

REPORT OF SPECIAL GENERAL MEETING.

THE Special General Meeting was held in the Transvaal Museum, Pretoria, on Saturday the 5th November, 1904, at 4 P.M. There was a small attendance; Mr. J. A. BUCKNILL was elected to the Chair. The Hon. Secretary stated that the object of the Meeting was to reconsider the name chosen for the Journal at the last Meeting of the Union, owing to the large number of Members who had taken exception to the title. After considerable discussion it was proposed by Mr. SPICER, and seconded by Mr. SKEA, that the name of the Journal should be simply "THE JOURNAL OF THE SOUTH AFRICAN ORNITHOLOGISTS' UNION." This motion was unanimously carried.

It was also recommended that the publication of the first number should be proceeded with as soon as possible.

The following gentlemen were elected Ordinary Members of the Union:—Messrs Julius Jeppe, C. H. B. Grant, A. N. Stenning, and Dr. Kirkman.

THE JOURNAL
OF THE
SOUTH AFRICAN ORNITHOLOGISTS' UNION.

Vol. I.

JULY 1905.

No. 1.

I.—*Address delivered by the Chairman, Mr. W. L. SCLATER, M.A., at the Inaugural Meeting.*

BEFORE commencing my address, let me congratulate you all who are here on your presence to-day at the founding of our proposed new Society or Union for the study of South African ornithology.

I am sure that you will all join with me in wishing it a long and prosperous life, and that by its means our knowledge of South African ornithology—now, alas! in a very backward state—may be increased and furthered.

In this respect South Africa offers a strong contrast not only to the United States, but also to India and Australia, although South Africa has had a white population settled here for so much longer than either; but I hope that the stimulus offered by our new Union, and by our proposed journal, will bring together our hitherto scattered naturalists, and will encourage them to keep careful records of their observations and to publish them.

The oldest and most celebrated of the societies similar to the one we are proposing to start is undoubtedly the British Ornithologists' Union, which was established in 1858 by a small band of gentlemen interested in the study and progress of ornithology, chief among whom were the late Lords Lilford and Walden, John Henry Gurney, and Osbert Salvin; while

Canon Tristram, Professor Newton, and my father, Mr. P. L. Sclater, still survive among the original members.

The chief object of the Union was to supply a journal or organ whereby the Members and others "might more readily bring before the public the results of their labours, discoveries, and observations in different parts of the world." Such an organ was provided in 'The Ibis,' a journal which has been issued in quarterly parts ever since 1859, and which contains an amount of information on all branches of ornithology such as has never been before or since brought together. So far as I am aware, there is no complete set of this indispensable publication to be found in South Africa, though in the Public Library in Capetown there is a set complete but for the first two volumes for 1859 and 1860. It is to be hoped that one of the objects of our present Union will be to start an ornithological library and that this library will obtain, as soon as funds allow, a complete set of 'The Ibis.'

Other countries have followed England's example; in fact, Germany was before us, where Cabanis founded his 'Journal für Ornithologie' in 1853, which is now under the able editorship of Dr. Anton Reichenow, of the Berlin Natural History Museum. In America the Nuttall Ornithological Club issued its Bulletin from 1876 to 1883, after which the name of the journal was changed to the 'Auk,' and is now edited by Mr. J. A. Allen, for the American Ornithological Union.

A more recent magazine is the Australian 'Emu,' the first part of which was only issued in 1901; while in India, under the editorship of Mr. Allan O. Hume, there were published between 1873 and 1899 twelve volumes of a journal exclusively devoted to the ornithology of that dependency, which form a storehouse of information to the bird-lover of the Orient.

The time seems ripe, therefore, to endeavour to bring our knowledge of our native South African birds up to the standard of other civilised countries: and there can be little doubt that the formation of a society or club and the publication of a journal will be the best means of stimulating and focussing all future work on the subject.

SOUTH AFRICAN ORNITHOLOGISTS.

LE VAILLANT.

I propose now to recall to your minds a few of our more illustrious predecessors, to whom we chiefly owe what knowledge we now possess of South African ornithology.

The first of these is undoubtedly the Frenchman, François le Vaillant (1753–1824) ; this celebrated sportsman and naturalist was born at Paramaribo, in Dutch Guiana, in 1753. His father was a wealthy merchant of that place, who originally came from Metz, then in France, and was the Acting French Consul. When only ten years old, Le Vaillant was sent to Holland, and from there returned to France, and rejoined his parents there. He early evinced a great taste for natural history, and employed a great deal of his time hunting and collecting birds. Finally he determined to go to Africa for this same purpose. He embarked from Texel, in Holland, at the end of 1779, and did not reach the Cape till early in 1781, having been more than a year making the voyage. He spent three months at the Cape, and made a celebrated journey to Saldanha Bay, where he stayed on board the ‘Middelburg,’ one of the ships of the Dutch fleet, which was ordered in that year to retire there to avoid the English expedition under Commodore Johnston. The English squadron, however, appeared, and all the Dutch fleet was captured except the ‘Middelburg,’ which was fired by her skipper, Van Glennep, and sunk in the shallow water of the bay. Poor Le Vaillant made his way back to Capetown on foot, having lost his collections and most of his possessions. However, he found some friends, who assisted him, and after equipping himself with a wagon and all the necessary paraphernalia for an extended journey, he started off on his eastern trip towards Kaffirland, which lasted for sixteen months ; he travelled along the south coast of the Colony, not far from the coast, but apparently did not get much further east than the Great Fish River ; on his return

he took a more northerly course through what is now the Somerset East district and the Karroo.

In 1783 he went another journey into the interior, this time travelling northwards towards the Orange River: he does not appear to have gone much beyond that point, but he obtained a giraffe, of which he was very proud, and which finally found a resting-place in the Paris Museum.

Le Vaillant returned to France in 1784, and prepared accounts of his travels and of his collections; the travels were published in 1790, and went through many editions, besides being translated into several other languages. The book, however, that chiefly concerns us here is the celebrated 'Histoire Naturelle des Oiseaux d'Afrique,' in six quarto volumes, published in Paris between 1799 and 1808. This sumptuous work, illustrated by 300 coloured plates prepared under the author's eye by the celebrated French artist, Barraband, contains descriptions of 284 birds. Unfortunately, whether owing to loss of part of his collections or of his notes, or, perhaps, owing to his trusting too much to information imparted to him by untrustworthy people, his statements as regards some of his birds are by no means reliable. A valuable commentary and criticism on Le Vaillant was published by Sundevall in 1857. He divides the 284 species as follows:—

Birds accurately described by Le Vaillant and easily recognisable as from South Africa	134
Birds probably from South Africa, but with faulty descriptions	9
Doubtful birds, not recognisable from the descriptions given.....	10
Birds stated by Le Vaillant to have been obtained in South Africa, but which almost certainly come from elsewhere	50
Birds described by Le Vaillant and stated by him to have been obtained in countries other than South Africa	71
Birds almost certainly artificially made up and not existing in nature	10

Notwithstanding, however, Le Vaillant's obvious errors and misapprehensions, many, if not most, of his observations, especially on the habits of Cape birds, have been confirmed by subsequent observers, and there is no reason to reject his whole work as unworthy of credence because he fell into a certain number of errors.

BURCHELL.

The next visitor to South Africa who devoted special attention to birds was William John Burchell (1782–1863). The son of a nurseryman at Fulham, he received as a young man an appointment of schoolmaster in the island of St. Helena; while there he prepared himself assiduously for his proposed journey to the interior of South Africa. He landed in Table Bay in 1810, and shortly afterwards started for the interior. Crossing the Orange River near its junction with the Vaal, he reached Klaar water, now called Griquatown, and subsequently Old Lattakun, not very far from Kuruman. The published account of his travels ends here; but he spent three more years in Africa, and did not return to England till 1817. He brought back with him a very large collection of animals and plants; the former were deposited in the British Museum, where, however, they were not taken very good care of or appreciated. The account of his travels in two quarto volumes, beautifully illustrated by drawings made by himself, was published in 1822 and 1824, and is, perhaps, the most accurate and painstaking record ever produced dealing with South Africa. Burchell did not devote special attention to birds, though he must have brought back a good many specimens with him; he mentions a good many in his book, and describes a certain number as new, while others were described by Sir William Jardine and other ornithologists of the period. Burchell subsequently travelled in South America, between the years 1825 and 1829, and finally died at Fulham in 1863.

Burchell's merits never seem to have met with the appreciation they deserved; the only recognition of his genius was the bestowal of an honorary degree of D.C.L. by the

University of Oxford in 1834. All his observations and records were obviously most carefully made, and can be implicitly relied on.

SIR ANDREW SMITH.

Andrew Smith, afterwards Sir Andrew Smith (1797–1872), came to the Cape in 1821 as a medical doctor, in the employ of the military, and remained in this country for 16 years. He devoted a good deal of attention to natural history, and was the hon. curator of the museum founded as early as 1826 by the then Governor, Lord Charles Somerset. In 1831 he made an expedition, accompanied by the botanist, Drège, eastwards through Kaffirland and Zululand to Delagoa Bay; and in 1834 to 1836 another journey into the interior to the head waters of the Orange River, in what is now Basutoland, and further north to the Limpopo. The results of these journeys are described in the ‘Illustrations of the Zoology of South Africa,’ completed in four volumes. Of these the second, consisting of 114 plates, with corresponding descriptive letterpress, is devoted entirely to birds; in it a large number of species are described for the first time, while others are figured and more completely defined and made known.

The illustrations were published subsequently to Sir Andrew’s return to England; where he became Director-General of the Army Medical Department in 1853, resigned on a pension in 1858, and died in 1872.

ANDERSSON.

Charles John Andersson (1827–1867) was born in the province of Wermeland in Sweden in 1827, and early evinced a taste for natural history. Visiting England in 1849, he met Mr. Francis Galton, who was at that time arranging for a journey to Lake Ngami, then only recently discovered by Livingstone. Mr. Galton arranged to take Andersson with him as his assistant and collector. Together they landed at Walvisch Bay in August 1850, and spent two years wandering about what is now German South-west

Africa, but without reaching Lake Ngami. In 1852 Galton went home to England, and Andersson resumed his travels, and shortly afterwards reached the lake. With the exception of a short visit to Europe in 1854, he spent the rest of his life in Damaraland and Namaqualand, travelling and collecting. Finally, worn out by illness, caused by hardships he had undergone, he died on July 5, 1867, in the wilds of Ovampoland, where his remains were interred in a sand hill by his Swedish friend and follower, Axel Eriksson.

Although Andersson had spent a great deal of time over the composition of his work on the avifauna of South-west Africa, he never lived to complete it; but after his death his notes and manuscript, together with the bulk of his collections, passed into the hands of Mr. John Henry Gurney, who published them under the title of 'Notes on the Birds of Damaraland,' in 1872.

LAYARD.

Edgar Leopold Layard (1824–1900) was born at Florence in 1824, and was a younger brother of the famous diplomatist and archæologist, Sir Henry Layard. He entered the Ceylon Civil Service in 1844, and remained in that island until 1855, when, his health giving way, he accepted a post in the Civil Service of Cape Colony under Sir George Grey. He was the first Curator of the South African Museum, which was formed in 1855, chiefly owing to the exertions of the late Mr. Charles Fairbridge and himself. In 1867 he published the first complete account of the birds of South Africa, in which were included "all the species then known occurring south of the 28th parallel of south latitude." This work, though incomplete and faulty in many respects, is, considering the collections of specimens and the books of reference at the disposal of the author, an exceedingly creditable one, and forms the foundation of all the modern work on South African birds. After Mr. Layard had left the Colony, he placed all his manuscript notes in the hands of Dr. Bowdler Sharpe, of the British Museum, under whose

editorship a second edition of the work, thoroughly revised and augmented, was issued in 1875-1894.

Mr. Layard held several posts in the Cape Civil Service until 1872, when he was transferred to the Consular Service, and was appointed to Para, in Brazil, and his connection with the Museum was severed. He was afterwards in the Fijis and New Caledonia, and ultimately retired, after 47 years of hard work. He spent the last part of his life at Budleigh Salterton, in Devonshire, where he died on January 1, 1900.

Mr. Layard, though he did not travel or collect much himself, had a wonderful talent for interesting others in his favourite subject, and in this way got together very complete collections of birds and their eggs for the South African Museum, and acquired that very extensive knowledge of the habits of our native birds which is exhibited to such an extent in his writings.

These five names by no means comprise the roll of South African ornithologists; but I fear I have already trespassed too long on your patience. Victorin and Wahlberg, the Swedes who collected chiefly for Sundevall, the great Swedish ornithologist; Delalande, Verreaux, and Delagorgue, the French collectors; Peters, afterwards the head of the Berlin Museum, who travelled in Mozambique, must all be passed over. So, too, the Atmores, the Jacksons, Mrs. Barber, and many others who assisted Mr. Layard. One of the most renowned and well-known of African ornithologists, whose labours commenced as far back as 1859, I am happy to say is still with us. I need hardly say I refer to Mr. Thomas Ayres, of Potchefstroom, who has contributed to the pages of 'The Ibis,' in collaboration with Mr. Gurney, 11 papers on the birds of Natal and 15 on those of the Transvaal.

In conclusion, I may say that it is my earnest wish that our Union should take up the work of these old pioneers, and continue to add fresh observations and discoveries to the study in which we are all of us deeply interested.



Photo by A. D. Millar, Durban.

NEST OF SMITH'S WEAVER-BIRD (*Sitagra ocellaria*).

II.—*Supplementary Notes on the Nesting-Habits and Eggs of certain South African Birds described in Stark and Selater's 'South African Fauna' (Birds, vols. i., ii., & iii.).* By RICHARD SPARROW, M.B.O.U., Major 7th Dragoon Guards. (Communicated to and prepared for publication by Mr. A. HAAGNER; with some Notes by the latter.)

(Plates I. & II.)

1. CORVULTUR ALBICOLLIS. (White-necked Raven.)

The clutch is usually five, not three eggs. In the O.R.C. and Natal I have found that it lays in August.

2. BUPHAGA ERYTHORHYNCHA. (Red-billed Oxpecker.)

This species also nests in stone walls, and the eggs are of a white ground covered with dark pink spots and blotches. It nests from November to January.

3. LAMPROCOLIUS PHENICOPTERUS BISPECULARIS. (Lesser Red-shouldered Glossy Starling.)

Nests in November. The clutch is only three eggs.

4. LAMPROCOLIUS MELANOGASTER. (Black-bellied Glossy Starling.)

This bird nests on the coast of Natal in the early part of November, and lays three pale blue-green unspotted eggs.

5. HYPHANTORNIS SUBAUREUS. (Yellow Weaver Bird.)

The eggs of this species vary as much as those of *H. spilnotus*, and pure white, pure blue, and white and blue spotted eggs are equally common.

[This is also my experience.—A. HAAGNER.]

6. SITAGRA OCULARIA. (Smith's Weaver Bird.)

I have found that eggs pale blue with dark spots are as common as the white eggs spotted with red.

7. SYCOBROTUS BICOLOR. (Black-backed Weaver Bird.)

In Natal this species lays in November, and frequently deposits four eggs.

8. *AMBLYOSPIZA ALBIFRONS*. (Thick-billed Weaver Bird.)

The entrance to the nest is halfway up one side. The eggs usually number three, and are either of a white ground-colour with small red spots chiefly at the larger end or of a pinkish ground with dark pink blotches and spots.

9. *ESTRILDA ASTRILDA*. (Common Waxbill.)

There is invariably a small nest on top of the main nest, presumably for the cock bird's use.

10. *AMADINA ERYTHROCEPHALA*. (Red headed Weaver Finch.)

I found a nest with two fresh eggs at Bothaville on the 31st July, 1901.

[Bothaville is in the O.R.C., on the Valsch River.—
A. HAAGNER.]

11. *PYROMELANA CAPENSIS MINOR*. (Lesser Black-and-Yellow Bishop Bird.)

This subspecies nests on the hill-sides in Upper Natal in long grass and small bushes, about three feet from the ground, in the early part of December, and lays three to four eggs resembling those of *P. capensis*.

12. *COLIOPASSER ARDENS*.

The Red-collared Widow Bird usually makes its nest in long grass on hill-sides, frequently in company with *Pyromelana capensis minor* and *C. procne* (Great-tailed Widow Bird). The eggs, laid in December, are of a bluish-green ground-colour spotted all over with blue-black, especially at the larger end. Clutch three.

13. *PASSER DIFFUSUS*. (Southern Grey-headed Sparrow.)

A pair of these birds built in the verandah of a house at Newcastle, Natal; and on the 7th December, 1902, I took three eggs slightly incubated. They were covered with blackish-brown blotches and streaks, and resembled in size and shape the eggs of the English *P. montanus* (Tree-Sparrow) and were a good deal smaller than the eggs of *P. arcuatus* (Cape Sparrow). The nest was untidy, and composed of grass lined with feathers.

14. FRINGILLARIA TAHAPISI.

In Upper Natal the Rock Bunting lays, in January and February, a clutch of three eggs of a pale blue ground-colour, covered all over, especially at the larger end, with spots and blotches of reddish brown.

15. SPIZOCORYS CONIROSTRIS. (Pink-billed Lark.)

I found this bird common in the Lindley District of the O.R.C. It makes a small round cup-shaped nest, let into the ground, usually close to the broad leaf of a weed. Eggs rarely more than two in number and very small, being of a white ground spotted all over with dots of greyish brown, frequently forming a ring at the larger end. It lays in December.

16. CERTHILAUDA RUFULA. (Rufous Long-billed Lark.)

This species is very common in the O.R.C., and nests from August to December. Clutch usually three, sometimes only two eggs; they are of a pale cream ground-colour spotted with yellowish-brown dots, frequently forming a ring round the larger end; they are hard to distinguish from the eggs of *T. cinerea* (Red-capped Lark). It lays from August to December.

17. NECTARINIA FAMOSA. (Malachite Sunbird.)

In Upper Natal builds a second nest in February or March, generally in the scrub alongside rivers and spruits, and frequently lays three eggs.

18. EUROCEPHALUS ANGITIMENS. (White-crowned Shrike.)

Two eggs of this species were taken by Mr. P. Krantz at Matlabas in 1894. They are larger than those of *L. collaris* (Fiscal Shrike), and are of a cream ground sparingly blotched with olive-green.

[Matlabas River is in the North-western Transvaal.—
A. HAAGNER.]

19. NILAUS BRUBRU. (Brubru Shrike.)

This Shrike builds, in the middle of October, a nest in the fork of a camel-thorn or other tree, fifteen to twenty feet from the ground. In external appearance it resembles the

nest of *P. molitor* (White-flanked Flycatcher), but is larger and flatter, and is composed of the ends of small twigs and weeds strengthened by twine and cobwebs and covered externally with lichen. It is lined with lichen and leaf-stalks. The clutch consists of two eggs only, of a white ground-colour covered and blotched all over with dark brown.

20. LANIARIUS QUADRICOLOR. (Four-coloured Bush-Shrike.)

The eggs found by me were of a blue ground, spotted, chiefly at the larger end, with pale brown, and resembled the eggs of *D. ferrugineus* (Greater Puff-back Shrike). Its nests are built in dense thickets and are very difficult to find. It lays in the early part of December.

[In vol. ii. of Stark and Selater's 'Birds of South Africa,' at p. 36, Mr. Millar, a thoroughly reliable observer, describes the eggs as being "white delicately marked with grey-brown streaks and splashes at the obtuse end;" so it would appear that the eggs of this bird are subject to variation.—
A. HAAGNER.]

21. ANDROPADUS IMPORTUNUS. (Sombre Bulbul.)

The clutch consists of two eggs of a pale cream ground-colour, with a few lines and spots of yellowish brown, usually forming a ring at the large end. It lays in November.

22. CHLOROCICHLA FLAVIVENTRIS. (Yellow-bellied Bulbul.)

Clutch usually two eggs, which resemble those of *Phyllostrophus capensis* (Cape Bristle-necked Bulbul), and can generally only be distinguished from them by their larger size. This species lays in November and December.

23. BRADYPTERUS BABÆCULA. (Babbling Reed-Warbler.)

This bird does not lay until the end of November or the beginning of December in Natal. I have never found more than two eggs in a clutch.

24. PRINIA HYPOXANTHA. (Saffron-breasted Wren - Warbler.)

This species makes a deep purse-shaped nest, composed entirely of a broad seedy grass, some of which is stitched to the nearest leaves. The entrance is near the top. It

nests from October to January. The nest is usually in bushes or trees near a river, and about four feet from the ground. The clutch is from three to four eggs, of a bluish green, covered, especially at the large end, with minute russet spots, and resembling the eggs of *Pratincola torquata* (South African Stone-Chat).

25. *CISTICOLA TERRESTRIS*. (Wren Grass-Warbler.)

Eggs of this species of a bluish-green ground-colour spotted with large and small spots of slaty purple are as common as white-spotted varieties.

[This is a fairly common bird at Modderfontein, near Johannesburg. The above variation was first noticed by me in 1899, when I found at least half a dozen nests containing eggs of the above-mentioned colours.—A. HAAGNER.]

26. *SPHENEACUS NATALENSIS*. (Natal Grass-Bird.)

This species nests in December. The eggs are similar to those of *S. africanus* (Cape Grass-Bird), and number three or four to the clutch.

27. *TURDUS LITSIPSIRUPA*. (Ground-scraper Thrush.)

The nest of this bird closely resembles that of *T. iliacus* (Missel-Thrush). I found a nest in a willow-tree, in a fork quite thirty feet from the ground. It also nests in low mimosa-trees. The clutch consists of three eggs of a pale blue ground-colour, *not* white. It lays in September and November.

[The only previous record of the egg of this species is that of a single specimen taken by a Mr. Lucas at Rustenburg, Transvaal, and said to be of a shiny white ground spotted with very dark and very pale purplish-brown blotches (Stark and Selater's 'South African Fauna,' Birds, vol. ii. p. 174).—A. HAAGNER.]

28. *MONTICOLA EXPLORATOR*. (Sentinel Rock-Thrush.)

At Mooi River, on the 1st October, 1903, I found a nest of this species under a flat stone on the side of a kopje, which contained three bright blue very pointed oval eggs without any spots—quite different to eggs of *M. rupestris* (Cape Rock-Thrush), although the nest was similar.

29. *THAMNOLÆA CINNAMOMEIVENTRIS*. (White-shouldered Bush-Chat.)

This bird occurs at Waschbank, Howick, and Inchanga, all in Natal, but is nowhere plentiful. The nest is usually inside an old nest of *H. cucullata* (Larger Stripe-breasted Swallow), with the tunnel broken away and the entrance enlarged, and is composed of coarse grass and roots and lined with wool. I found one nest on a ledge inside a small cave amongst steep rocks. Five other nests were inside old nests of *H. cucullata*. The clutch consists of three eggs of a pale blue ground spotted all over with small spots and blotches of purple-brown, forming a ring round the obtuse end. It nests in early October.

30. *COSSYPHA BICOLOR*. (Noisy Robin-Chat.)

I found a nest of this species in a big yellowwood-tree at Balgowan, in Natal, on the 15th November, 1903. It was built in a cavity on the side of the tree about twenty feet from the ground, and was concealed by small ferns. The nest resembled that of *C. natalensis* (Natal Robin-Chat). The eggs, three in number, slightly incubated, were of a uniform dark olive-green, and larger than those of *C. natalensis*.

31. *COSSYPHA SIGNATA*. (Brown Robin-Chat.)

At Clairmont, near Durban, on 23rd November, 1902, Mr. A. D. Millar found two nests of this species in old stumps ten feet from the ground in thick bush. One nest contained two eggs, hard set; the other, one fresh egg. They are of a bluish-grey ground-colour, covered with large reddish-brown spots and blotches.

32. *PACHYPRORA CAPENSIS*. (Cape Flycatcher.)

Fairly common throughout Natal, especially in the thorn-trees, where it lays two eggs only, in the early part of October.

33. *COTILE CINCTA*. (Banded Sand-Martin.)

This Sand-Martin does not lay in Upper Natal until the end of November or beginning of December. Two or three eggs form the clutch.



Photo by A. D. Millar, Durban.

NEST OF CAPE FLYCATCHER (*Pachyprora capensis*).

34. *HIRUNDO ATROCÆRULEA*. (Blue Swallow.)

This bird is fairly common near Balgowan (Natal) close to the yellowwood-trees; it also occurs at Gilletts and Pine-town in Natal, but is very local. It builds a small open cup-shaped nest of mud and grass against the roof of a large ant-bear hole about three feet from the entrance: it is lined with grass and feathers. The clutch consists of two eggs, which vary considerably in size and shape. They resemble those of *H. smithi* (Wire-tailed Swallow), but the spots and blotches usually form a ring round the obtuse end. Nesting commences in December and lasts till the beginning of March.

35. *HIRUNDO SEMIRUFA*. (Rufous-breasted Swallow.)

Mr. Austin Roberts has sent me a clutch of four eggs of this bird, which he says also nests in ant-bear holes. They are white and resemble the eggs of *H. cucullata* (Larger Stripe-breasted Swallow). He took the clutch at Potchefstroom on the 4th December, 1903.

36. *IRRISOR VIRIDIS*. (Kakelaar.)

Near Durban on the 6th December, 1903, I found a nest of this bird with four young just hatched. The nest was in an old hole of *Lybius torquatus* (Black-collared Barbet).

37. *ALCEDO SEMITORQUATA*. (Half-collared Kingfisher.)

At Newcastle, Natal, on 8th October, 1902, I found a nest of this species containing four half-fledged young: the nest-hole was under a small willow about three feet above the water, and was as foul as Kingfishers' nests usually are.

38. *BUCORAX CAFER*. (Brom-vogel.)

Mr. Graham Hutchinson very kindly gave me two eggs of this bird taken from the same hole visited by the late Dr. Stark at Boschfontein, near Balgowan, Natal (Stark and Selater, Fauna of S. Africa, Birds, vol. iii. p. 105); they were collected in October 1902, and were quite fresh, being pure white and covered with tubercles.

39. *LOPHOCEROS MELANOLEUCUS*. (Crowned Hornbill.)

In Natal this bird nests in October and November.

40. *LOPHOCEROS ERYTHORHYNCHUS*. (Red-billed Hornbill.)

Two clutches of eggs of this species were taken by Mr. P. Kranz at Pienaar's River, Transvaal, in October 1893. Their coloration is a dirty white, and they resemble the eggs of *L. melanoleucus* (Crowned Hornbill), but are a good deal smaller. Three to four eggs form the clutch. The eggs are now in the Pretoria Museum.

41. *GEOCOLAPTES OLIVACEUS*. (Ground-Woodpecker.)

According to my experience, the usual number of the clutch appears to be two or three, not four or five.

42. *CAMPOTHERA BENNETTI*. (Bennett's Woodpecker.)

Five eggs of this species, taken by Mr. P. Krantz at Matlabas in 1894, are white ovals, a little smaller than those of *C. abingdoni* (Golden-tailed Woodpecker).

43. *IYNX RUFICOLLIS*. (South African Wryneck.)

Very common at Waschbank, Natal. It lays three eggs in old holes of Woodpeckers, or in a natural hole. The eggs are smooth, white, and almost perfect ovals; it nests from the middle of August till the middle of October.

44. *BARBATULA PUSILLA*. (Tinker Bird.)

I took two fresh eggs of this species—small white ovals—from a dead limb of a mimosa, about ten feet from the ground, at Waschbank, Natal, on the 5th November, 1902.

45. *TRACHYPHONUS CAFER*. (Le Vaillant's Barbet.)

This species is fairly common in the thorns near Waschbank. On the 23rd October, 1903, I found a nest in a hole in a camel-thorn, about two feet from the entrance, containing four hard-set eggs which were laid on the chips. (I caught the cock bird on the nest.) Another nest containing three eggs was taken on the 5th November, 1903, in the same locality. The eggs are white ovals, rather rough, and half as large again as the eggs of *L. torquatus* (Black-collared Barbet).

46. CHRYSOCOCCYX CUPREUS. (Didric Cuckoo.)

I have taken five eggs of this species this season, all from nests of *S. capensis caffra* (Eastern Cape Weaver Bird), which lays blue eggs only. All the five eggs of the Cuckoo were of a bluish-green ground-colour thickly spotted with slaty brown. Mr. A. D. Millar and Mr. Austin Roberts both corroborate this view that the eggs are not white. They lay in December.

[I took three eggs from the nests of *H. velatus* (Masked Weaver Bird) on the Yokeskei River near the ford of the Johannesburg-Pretoria road, on the 17th November, 1903. The coloration of these eggs was, strange to say, very similar to that described by Major Sparrow. I will give more details of this case on some future occasion.—A. HAAGNER.]

47. GALLIREX PORPHYREOLOPHUS. (Purple - crested
Lourie.)

Mr. H. Millar took a nest of this species on the 16th November, 1902, at Clairmont near Durban, containing three large chalky-white eggs. The nest was like that of a large Dove's.

48. FALCO BIARMICUS. (South African Lanner.)

Very common at Potchefstroom (Transvaal) and Harrismith (O.R.C.), and common near most krantzies in Upper Natal. This Falcon lays from July 15th till August 15th, and the clutch consists of three or four large roundish eggs very similar in shape and markings to the eggs of *T. ruficollis* (South African Kestrel). In the Potchefstroom district it occupies the deserted nests of a Vulture, Crow, or large Kestrel. Near Harrismith (O.R.C.) and in Upper Natal it lays its eggs in a hole or ledge of a cliff usually inaccessible without ropes.

49. ACCIPITER RUFIVENTRIS. (African Sparrow Hawk.)

Two clutches of four eggs each of this species were taken by me at Mooi River on the 11th October, 1900, and the 29th October, 1903. Both were hard-set and resembled the

eggs of the English Sparrow-Hawk (*A. nisus*), but are smaller and the markings are fainter. The nest in each case was high up in a yellowwood-tree and well concealed by green moss.

50. POLYBOROIDES TYPICUS. (Harrier Hawk.)

Mr. H. Millar has three eggs of this species taken at the Elandslaagte Falls, Natal, in September, a few years ago. They are large ovals covered with blood-red blotches, almost concealing the white ground-colour.

III.—*Notes on the Nest and Eggs of Coliopasser ardens*
(*Red-collared Widow Bird*). By F. J. ELLEMOR.

(Plate III.)

WHILST collecting at Witpoorje (about sixteen miles from Johannesburg on the Randfontein line) on the 4th December, 1904, in company with my friend Mr. Duncan, I found the nest and eggs of *C. ardens*. The nest was built amongst the fine long grass and weeds about 18 inches from the ground and measures $4\frac{3}{4}$ by $3\frac{1}{4}$ inches; it is kidney-shaped, with the opening on one side near the top, and is constructed of fine grass, with the heads attached and woven towards the inside of the nest. The grass-heads at the top of the opening are woven into the growing grass, being thus attached to it and forming a canopy. The eggs were three in number, of a greenish blue blotched with slate-colour overlaid with olive-brown (whilst fresh). They have since faded to a duller tint. Two measure 0.81×0.55 inch and one 0.77×0.51 inch.

IV.—*Birds collected and observed around Hanover, Cape Colony, from July 20th to the end of September 1903.*
By GUY C. SHORTRIDGE.

[THE birds here described by Mr. Shortridge are now in the South African Museum, Cape Town. Only those species



Photo by F. J. Ellenor, Johannesburg.

NEST OF COLIOPASSER ARDENS.

marked with an asterisk are unrepresented. The references are to the first three volumes of Stark and Selater's 'Birds of South Africa' and to Sharpe's edition of Layard's 'Birds of South Africa.'—W. L. SCLATER.]

1. CORVULUR ALBICOLLIS. (White-necked Raven.)
(Stark, vol. i. p. 10.)

Rare : only once seen while at Hanover.

2. CORVUS SCAPULATUS. (Pied Crow.)
(Stark, vol. i. p. 12.)

Common : nesting on the kopjes around Hanover ; shy and difficult to approach ; generally going about in pairs, occasionally in flocks of about six.

3. AMYDRUS CAFFER. (Pale-winged Starling.)
(Stark, vol. i. p. 28.)

Not very plentiful around Hanover, going about in pairs. The pale wings of this bird are very conspicuous in flight, which easily distinguishes it from *A. morio* (Red-winged Starling), which it resembles in habits.

4. SPREO BICOLOR. (Pied Starling.)
(Stark, vol. i. p. 30.)

One of the most plentiful birds in the district. They are great scavengers here, feeding to a large extent amongst refuse and often collecting and flying about in big flocks.

5. HYPHANTORNIS VELATUS. (Masked Weaver Bird.)
(Stark, vol. i. p. 58.)

Very plentiful, gregarious. When I was at Hanover this species was in winter plumage ; a few were just beginning to change when I left at the end of September. The male could always, when shot, be distinguished from the female by the red iris, which in the female is hazel. Stark describes the iris of the male as turning brown in the winter, but this evidently does not happen here. *H. velatus mariquensis*, which occurs near Pretoria, is a smaller bird, and the iris of the male there is pinkish straw-colour.

6. *ESTRILDA ASTRILDA*. (Common Waxbill.)

(Stark, vol. i. p. 98.)

Not plentiful : irregular in appearance ; sometimes coming and going in small flocks.

*7. *PYROMELANA ORYX*. (Red Bishop Bird.)

(Stark, vol. i. p. 126.)

Described as being fairly plentiful on banks of rivers around Hanover.

8. *PASSER ARCUATUS*. (Cape Sparrow.)

(Stark, vol. i. p. 160.)

The most abundant bird in Hanover. It swarms in the town, building large and untidy nests in the trees which line the streets.

9. *SERINUS FLAVIVENTRIS*. (Yellow-bellied Seed-eater.)

(Stark, vol. i. p. 170.)

Plentiful, especially near springs and in damp localities : gregarious.

10. *SERINUS ALBIGULARIS*. (White-throated Seed-eater.)

(Stark, vol. i. p. 174.)

A fairly plentiful species, going about in pairs.

11. *ALARIO ALARIO*. (Mountain Canary.)

(Stark, vol. i. p. 179.)

More or less migratory, appearing in considerable numbers towards the end of August : local ; collecting in flocks near springs and damp localities and coming day after day to the same place. They obtain their food on the ground, which consists of seeds and vegetable matter.

12. *FRINGILLARIA CAPENSIS*. (Cape Bunting.)

(Stark, vol. i. p. 187.)

Plentiful among rocks on kopjes.

13. *FRINGILLARIA IMPETUANI*. (Lark Bunting.)

(Stark, vol. i. p. 190.)

Not plentiful, among rocks ; only single individuals observed, occasionally with flocks of *A. alario* (Mountain Canary).

14. *PYRRHULAUDA AUSTRALIS*. (Dark-naped Lark.)

(Stark, vol. i. p. 194.)

Not plentiful, going about in small flocks of about six: very tame and easy to approach.

15. *CALENDULA CRASSIROSTRIS*. (Thick-billed Lark.)

(Stark, vol. i. p. 202.)

Very plentiful: often found in flocks of about ten or twelve, when they are much more difficult to approach than are single specimens. They occasionally settle on the tops of low trees and bushes. The crops of some specimens examined contained white ants.

16. *TEPHROCORYS CINEREA*. (Red-capped Lark.)

(Stark, vol. i. p. 222.)

Very plentiful: more or less migratory; often going about in large flocks of several hundred, at which time they are rather wild; very easy to approach at other times.

17. *ALÆMON SEMITORQUATA*. (Grey-collared Lark.)

(Stark, vol. i. p. 228.)

Fairly plentiful: going about in pairs; never found far away from rocky ground or kopjes. The males are, as a rule, much larger than the females.

18. *CERTHILAUDA RUFULA*. (Rufous Long-billed Lark.)

(Stark, vol. i. p. 234.)

Very plentiful: usually found in pairs, but occasionally in small flocks of about eight or ten. This is a curiously tame and unsuspecting bird, allowing anyone to approach within a few feet. On rising it rather resembles a Quail in flight.

19. *ANTHUS NICHOLSONI*. (Nicholson's Pipit.)

(Stark, vol. i. p. 249.)

Not plentiful. Rather similar in flight to *A. semitorquata* (Grey-collared Lark), which frequents the same localities; easy to approach, going about singly or in pairs.

20. *MOTACILLA CAPENSIS*. (Cape Wagtail.)

(Stark, vol. i. p. 259.)

Plentiful except in particularly dry localities.

21. *NECTARINA FAMOSA*. (Malachite Sunbird.)

(Stark, vol. i. p. 276.)

Not plentiful: arriving towards the end of August when aloes and other plants start coming into flower.

22. *CINNYRIS FUSCUS*. (White-vented Sunbird.)

(Stark, vol. i. p. 290.)

Not plentiful: going about in pairs; probably migratory during the winter months.

*23. *ZOSTEROPS CAPENSIS*. (Cape White-eye.)

(Stark, vol. i. p. 302.)

Not common: found in small flocks; irregular in appearance.

24. *PARUS AFER*. (Grey Tit.)

(Stark, vol. i. p. 305.)

Not common.

25. *ÆGITHALUS CAPENSIS*. (Cape Penduline Tit.)

(Stark, vol. i. p. 310.)

Not common.

26. *LANIUS COLLARIS*. (Fiscal Shrike.)

(Stark, vol. ii. p. 6.)

Not uncommon in the district where trees have been planted. The closely-allied species *L. subcoronatus* (Coroneted Shrike) also occurs here, but the markings of the specimens from this district are not so well defined as those from near the Orange River, being more or less intermediate between the two. There is no doubt that they interbreed when they occur in the same locality, some specimens having very faint traces of the white eyebrow which distinguishes *L. subcoronatus* from *L. collaris*.

27. *LANIUS SUBCORONATUS*. (Coroneted Shrike.)

(Stark, vol. ii. p. 9.)

Not plentiful: in flight and habits exactly resembles the preceding species.

22.7.03, ♀; 8.8.03, ♂.

28. LANIARIUS GUTTURALIS. (Baobakiri Shrike.)

(Stark, vol. ii. p. 33.)

Rare. 1.8.03, ♂ ; 23.8.03, ♀.

29. PYCNONOTUS NIGRICANS. (Black-fronted Bulbul.)

(Stark, vol. ii. p. 64.)

Fairly plentiful: the conspicuous wattle round the eye is a bright orange-colour.

30. PARISOMA LAYARDI. (Layard's Tit-Babbler.)

(Stark, vol. ii. p. 76.)

Fairly plentiful among bushes on or near kopjes. It resembles *A. scita* (Fairy Warbler) very much in flight, in spite of its larger size. All the specimens of this bird obtained by me had their heads covered with a yellow dust, probably pollen from flowers caught whilst in pursuit of insects.

31. EREMOMELA FLAVIVENTRIS. (Yellow-bellied Bush-Warbler.)

(Stark, vol. ii. p. 106.)

Generally plentiful: frequenting open country; frequently seen on the top of some low karroo-bush; flying on to the nest when disturbed.

32. SYLVIELLA RUFESCENS. (The Crombek.)

(Stark, vol. ii. p. 115.)

Rare; one specimen obtained among rocks on a kopje on 21.8.03, a male.

33. APALIS SCITA. (Fairy Warbler.)

(Stark, vol. ii. p. 122.)

Probably migratory; it appeared quite suddenly in some numbers towards the end of August; it flies about amongst bushes on kopjes. It has a weak flight, and its tail, which seems rather heavy for the bird, is spread out like a fan whilst flying. It does not resemble *A. thoracica* (Bar-throated Warbler) either in habits or movements.

34. PRINIA MACULOSA. (Cape Wren-Warbler.)

(Stark, vol. ii. p. 133.)

Not common: a much more shy bird here than at the Cape. Male, 5.8.03; female, 25.9.03.

35. *CISTICOLA SUBRUFICAPILLA*. (Grey-backed Grass-Warbler.)

(Stark, vol. ii. p. 151.)

One specimen seen 26.9.03.

36. *TURDUS CABANISI*. (Cabanis's Thrush.)

(Stark, vol. ii. p. 177.)

Not common : female obtained 22.9.03.

37. *MYRMECOCICHLA FORMICIVORA*. (Ant-eating Chat.)

(Stark, vol. ii. p. 186.)

Fairly plentiful : a very weak flyer ; if wounded it can run very swiftly and will frequently make its escape down an ant-bear hole.

38. *PRATINCOLA TORQUATA*. (South African Stone-Chat.)

(Stark, vol. ii. p. 190.)

Rare around Hanover : a single pair only seen. Male obtained 4.9.03 ; female 17.9.03.

39. *SAXICOLA MONTICOLA*. (Mountain Chat.)

(Stark, vol. ii. p. 194.)

Frequents kopjes : very plentiful ; rather wild, going about in pairs. I did not stay long enough at Hanover to determine accurately the plumage-changes of the males. I found, however, all the forms pairing with females. They undoubtedly change from black to grey, but I believe that the white shoulders and underparts are peculiar to individual birds which develop during the black stage ; others never obtain this coloration, although intermediate forms with more or less white shoulders are common. The females also vary as to the amount of white on the tail-feathers. The following list of specimens obtained may be instructive :—

(1) 22.7.03, ♂ (black form : white shoulders).

(2) 24.7.03, ♂ (grey : white shoulders).

(3) 25.7.03, ♂ (grey : without white shoulders).

(4) 13.8.03, ♂ (black : white shoulders, crown turning grey).

(5) 20.8.03, ♂ (grey : indistinct white shoulders).

(6) 9.9.03, ♂ (black : white belly and shoulders).

(7) 9.9.03, ♀ (tail-feathers, excepting two centre, entirely white).

(8) 9.9.03, ♀ (tail-feathers only white at base).

40. *SAXICOLA PILEATA*. (Capped Wheatear.)

(Stark, vol. ii. p. 196.)

Migratory around Hanover: appearing in considerable numbers towards the middle of August.

41. *SAXICOLA FAMILIARIS*. (Familiar Chat.)

(Stark, vol. ii. p. 201.)

Plentiful, but not nearly so abundant as *Emarginata sinuata* (Sickle-winged Chat).

42. *EMARGINATA SINUATA*. (Sickle-winged Chat.)

(Stark, vol. ii. p. 203.)

The most plentiful bird on the Karroo, near Hanover. Although somewhat like *S. familiaris* (Familiar Chat), it is not easily mistaken, even when seen flying; its tail, which is a brighter chestnut than that of its congener, and banded with brown, is very noticeable in flight, being spread out in the shape of a fan.

43. *EMARGINATA POLLUX*. (Hartlaub's Chat.)

(Stark, vol. ii. p. 205.)

Not plentiful: a single pair seen; not very easy to distinguish in flight from the grey form of *Saxicola monticola* (Mountain Chat).

Specimens obtained: ♂ 9.8.03; ♀ same date.

44. *COSSYPHA CAFFRA*. (Cape Robin-Chat.)

(Stark, vol. ii. p. 213.)

Not common: specimen obtained 12.9.03.

45. *ERYTHROPYGIA CORYPHÆUS*. (The Cape Ground-Robin.)

(Stark, vol. ii. p. 229.)

Very plentiful: much more familiar and tame here than at the Cape.

46. *BRADYORNIS INFUSCATUS*. (Brown Flycatcher.)

(Stark, vol. ii. p. 237.)

Rare: one specimen seen; very shy; rather like a Thrush

in flight. Fond of settling on the tops of bushes, from which it watches for insects on the ground ; it takes short flights backwards like a Flycatcher.

- (1) 21.8.03, ♂ : iris dark brown ; bill and legs black.
Ants in the stomach.

47. *COTILE PALUDICOLA*. (South African Sand-Martin.)
(Stark, vol. ii. p. 283.)

Not plentiful around Hanover : migratory.

- (1) 28.8.03, ♀ : iris black-brown ; legs and bill dusky black.
(2) 27.9.03, ♀ : iris black-brown ; bill black.

48. *PTYONOPROGNE FULIGULA*. (Rock-Martin.)
(Stark, vol. ii. p. 286.)

Plentiful towards the end of August, a few pairs being probably resident here and occasionally nesting in farms and houses.

49. *HIRUNDO ALBIGULARIS*. (White-throated Swallow.)
(Stark, vol. ii. p. 292.)

Arrives in considerable numbers at the beginning of September. I saw a few individual birds towards the end of July, which must have been either residents or very early arrivals ; they breed here, making cup-shaped mud nests under the eaves of houses.

50. *HIRUNDO DIMIDIATA*. (Pearl-breasted Swallow.)
(Stark, vol. ii. p. 293.)

Not plentiful : one specimen ; very difficult to distinguish in flight from the preceding species.

- (1) 26.9.03, ♀ : iris dark brown ; bill and legs black.

51. *HIRUNDO CUCULLATA*. (Larger Stripe-breasted Swallow.)
(Stark, vol. ii. p. 298.)

The latest Swallow to arrive at Hanover, coming in considerable numbers towards the end of September.

52. *PETROCHELIDON SPILODERA*. (South African Cliff-Swallow.)
(Stark, vol. ii. p. 304.)

Arrives in large numbers about the middle of September.

A colony builds on one of the walls of the church at Hanover every year.

- *53. *CYPSELUS CAFFER*. (African White-rumped Swift.)
(Stark, vol. iii. p. 25.)

One specimen seen 22.9.03.

- *54. *CAPRIMULGUS* sp.?

A species of Nightjar occurs around Hanover: not common.

- *55. *CORYTHORNIS CYANOSTIGMA*. (Malachite Kingfisher.)
(Stark, vol. iii. p. 81.)

A small blue Kingfisher, most probably this species, is said to occur on the Seacow River in the Hanover district.

56. *COLIUS CAPENSIS*. (White-backed Mouse-bird.)
(Stark, vol. iii. p. 97.)

Fairly plentiful, but rather an uncertain visitor in this district: gregarious.

- *57. *GEOCOLAPTES OLIVACEUS*. (Ground Woodpecker.)
(Stark, vol. iii. p. 126.)

Rare round Hanover: one specimen seen.

58. *TRICHOLÆMA LEUCOMELAS*. (Pied Barbet.)
(Stark, vol. iii. p. 160.)

Fairly plentiful: frequenting scrubby bush on kopjes and in gardens; going about singly, occasionally in pairs. It has a loud note which is rather ventriloquial, but when seen the bird is easy to approach.

59. *BUBO MACULOSUS*. (Spotted Eagle-Owl.)
(Stark, vol. iii. p. 249.)

Fairly plentiful around Hanover.

60. *FALCO BIARMICUS*. (South African Lanner.)
(Stark, vol. iii. p. 269.)

Not very plentiful. Almost impossible to tell from *F. minor* (South African Peregrine) in flight. Not easy to approach within gunshot; but when chasing a small bird becomes very bold and fearless, flying within a few yards of a man's head.

61. *TINNUNCULUS RUPICOLUS*. (South African Kestrel.)
(Stark, vol. iii. p. 276.)

Fairly plentiful.

- *62. *BUTEO JAKAL*. (Jackal Buzzard.)
(Stark, vol. iii. p. 330.)

Fairly plentiful.

63. *MELIERAX CANORUS*. (Chanting Goshawk.)
(Stark, vol. iii. p. 361.)

Not plentiful. I kept a female of this species alive while at Hanover ; it can run very swiftly. Its colour, movements, and general appearance are very much like those of the Secretary Bird. The specimen I kept always remained very shy and wild, but it was not at all savage, never attempting to defend itself when handled. Specimens obtained : (1) 9.8.03, ♂ ; (2) 9.8.03, ♀ .

- *64. *GYPES KOLBII*. (Kolbe's Vulture.)
(Stark, vol. iii. p. 383.)

Occasionally fairly numerous ; at most times rare.

- *65. *SERPENTARIUS SECRETARIUS*. (Secretary Bird.)
(Stark, vol. iii. p. 402.)

Not common : said to occur occasionally around Hanover.

- *66. *COLUMBA PHÆONOTA*. (South African Speckled Pigeon.)

(Layard, p. 559.)

Fairly plentiful in certain districts around Hanover, chiefly near farms or among kopjes.

67. *TURTUR CAPICOLA*. (Cape Turtle-Dove.)
(Layard, p. 567.)

Plentiful, but not so abundant as in some districts.

68. *ÆNA CAPENSIS*. (Long-tailed African Dove.)
(Layard, p. 572.)

Migratory, arriving in September : not plentiful.

69. *PTEROCLES NAMAQUA*. (Namaqua Sand-Grouse.)
(Layard, p. 594.)

Migratory : said to be plentiful at certain seasons.

70. *FRANCOLINUS AFER*. (Grey-winged Francolin.)
(Layard, p. 595.)

Local : fairly plentiful among kopjes and rocky ground.
Migratory : moves about, as a rule, in parties of about ten or twelve.

- *71. *FRANCOLINUS LEVAILLANTI*. (Le Vaillant's Francolin.)
(Layard, p. 596.)

Said to occur at Hanover, but, unlike the preceding species, to keep always to the open veldt.

- *72. *FULICA CRISTATA*. (Red-knobbed Coot.)
(Layard, p. 621.)

Said to occur, often numerous, on the Seacow River in the Hanover district.

- *73. *BALEARICA CHRYSOPELARGUS*. (Southern Crowned Crane.)

(Layard, p. 629.)

Occurs in the district around Hanover.

74. *OTIS CÆRULESCENS*. (Blue Bustard.)
(Layard, p. 638.)

Plentiful : generally found in pairs, but occasionally in small flocks. When on the ground these birds, in spite of their size, are very difficult to see even when the very spot they have alighted on has been marked, whilst if they think themselves watched they will often creep away unseen amongst the karroo-scrub a few inches in height for a considerable distance. When put to flight they will seldom fly far, but they become more difficult to approach every time they are flushed. They are generally shot with a rifle, as it is not easy to get within gunshot in the open districts which they frequent. The Paauw (*Otis kori*) is said to occur near Hanover, and also a smaller species of Bustard with a black breast like *Otis afra* (African Black Bustard).

75. *ÆDICNEMUS CAPENSIS*. (South African Thick-knee.)
(Layard, p. 645.)

Migratory : very plentiful at certain times of the year ; crepuscular in its habits. Its wings are curiously mottled

and very large, which give it a great resemblance to *Bubo maculosus* (Spotted Eagle-Owl) when seen flying at dusk.

76. *CURSORIUS BICINCTUS*. (South African Two-banded Courser.)

(Layard, p. 654.)

Not plentiful : generally found in pairs. A very swift runner ; when chased will seldom take to flight except when hard pressed, and then seldom flies far.

77. *CHETTUSIA CORONATUS*. (Crowned Lapwing.)

(Layard, p. 670.)

Migratory : arrives in September with *Ædicnemus capensis*. Largely nocturnal in its habits, flying about and becoming very noisy on moonlight nights, and are more often heard than seen. During the day they usually lie very close, but after being once flushed are difficult to again approach.

78. *EUDROMIAS ASIATICUS*. (Asiatic Dotterel.)

(Layard, p. 665.)

One specimen obtained 14.9.03 on a dam at Hanover.

79. *ÆGIALITIS TRICOLLARIS*. (Treble-collared Sand-Plover.)

(Layard, p. 662.)

Plentiful, but irregular in appearance.

80. *ÆGIALITIS VARIA*. (Kittlitz's Sand-Plover.)

(Layard, p. 661.)

Fairly plentiful : migratory ; arrive in September. Local.

(1) 16.9.03, ♂.

(2) 22.9.03, ♀ (egg half-developed).

81. *TOTANUS GLAREOLA*. (Wood-Sandpiper.)

(Layard, p. 690.)

A single female obtained on a dam at Hanover on September 5th, 1903.

82. *MACHETES PUGNAX*. (Ruff.)

(Layard, p. 685.)

Two specimens obtained : one by a dam near the town, the other on the Seacow River ; both in winter plumage.

83. TRINGA SUBARQUATA. (Curlew-Sandpiper.)

(Layard, p. 682.)

Two specimens obtained in September on the Seacow River, near Hanover; both had traces of summer plumage.

*84. GERONTICUS CALVUS. (Bald Ibis.)

(Layard, p. 738.)

Not plentiful round Hanover: a flock of about eight seen in August, and three specimens in July.

*85. ARDEA MELANOCEPHALA. (Black-necked Heron.)

(Layard, p. 709.)

An occasional visitor: not so plentiful as the following species.

86. ARDEA CINEREA. (Common Heron.)

(Layard, p. 708.)

There are one or two heronries amongst willow-trees on several of the farms around Hanover.

87. SCOPUS UMBRETTA. (Hammer-head.)

(Layard, p. 725.)

Fairly plentiful.

*88. CHENALOPEX ÆGYPTIACUS. (Egyptian Goose.)

(Layard, p. 747.)

Fairly plentiful in the district, generally going about in flocks of six or eight. This species or *Casarca cana* (South African Shell-Duck) is said to breed in the kopjes around Hanover. It is described as being plentiful near the Seacow River.

*89. CASARCA CANA. (South African Shell-Duck.)

(Layard, p. 753.)

Not plentiful: several seen. The males, which are much larger than the females, resemble the preceding species when flying.

*90. ANAS XANTHORHYNCHA. (Yellow-billed Teal.)

(Layard, p. 755.)

Not common: said to be fairly plentiful on the Seacow River.

V.—*A Visit to a Breeding Colony of Ibis æthiopica*
(*Sacred Ibis*). By AUSTIN ROBERTS.

WHILST travelling from Springs to Witbank I discovered a "pan" overgrown with reeds, around which were numbers of Herons and Sacred Ibis. Stopping for a few minutes I observed an Ibis carrying a long rush in its mouth flying round, evidently waiting for us to move away; eventually it alighted at a spot which I carefully noted but had not, that day, time to investigate.

On the 11th December, 1904—about a fortnight later—I again visited the spot, and, wading in to a depth of about 4 feet amongst the rushes and scattered reeds, came across two colonies of this species—one consisting of seven nests, four containing three eggs and three containing two; the other consisting of three nests, one of which held three eggs and the remaining two two. The birds did not observe me until I was quite close at hand: some were sitting on the eggs and others standing up. The one nearest me was pulling up the rushes near her nest and placing them round her feet; there were only two eggs in her nest—evidently not the full complement.

The nests in each colony were built on a common platform of rushes, the seven nests not covering more than 4 feet square of space; each nest was about from 10 to 15 inches across at the top, being raised about 6 inches above the water, and circular, with a depression in the centre for the eggs. The nests were so close together that it is hard to conceive how all the birds could sit on their eggs without getting in each other's way.

The eggs are of a dirty white ground-colour, becoming darker as they advance in incubation, from the mud brought to the nests by the feet of the parents. Some of them are prettily marked with streaks and spots of light brown round the thicker end, but by far the majority were hardly marked at all.

Later in the day I found another small colony of about

six nests, which had apparently been raided by some other waders. On one was a full-grown Ibis, which had been pulled to pieces; here and there eggs and shells lay scattered; the reeds were much trodden down, and feathers lay thick in all directions. In a very secluded part of the pan, only capable of being reached by the boat, was the main colony of perhaps some seventy to eighty nests; these contained young only in all stages of growth.

On the 31st December I again visited the "pan" and found that all the nests had been deserted and the eggs destroyed.

It is perhaps unnecessary to give the exact locality of this interesting place, but it is situated not far from Balmoral Station. Several other interesting species were also nesting on the pan, and I discovered nests of *Ardea cinerea* (Common Heron), *Bubulcus ibis* (Buff-backed Egret), *Ardea purpurea* (Purple Heron), *Botaurus pusillus* (African Little Bittern). I also heard the booming of *Botaurus stellaris* (Common Bittern), and observed several other waders and water-birds of which I hope, on a future occasion, to give a more extended account.

OBITUARY.

MR. JOHANN VAN OOSTERZEE MARAIS, M.B.O.U.

WE much regret to have to record the death of Mr. JOHANN VAN OOSTERZEE MARAIS, M.B.O.U., which took place on the 15th February, 1904, at the early age of thirty-three. Born in Queenstown, C.C., in 1871, Mr. Marais had already made a name for himself as an ornithologist. He was an ardent, indefatigable, and capable collector, and the magnificent condition of the large collections of skins which he at different times amassed in the course of his life proves him to have been a most skilled and thorough taxidermist. The quality and finish of his specimens were of the very highest order, and a model of perfection and neatness. For some time prior to the war, and for a short period afterwards, he

was employed by the Cape Government in the Forest Department at Knysna, and in that capacity and that district had ample opportunity for exercising his favourite pursuit. Both the South African Museum in Cape Town and the Transvaal Museum in Pretoria were able to acquire from him large numbers of valuable specimens obtained chiefly in this district, and it was here that he discovered a species new to science, *Laniarius maraisi* (Marais' Bush-Shrike), described by Mr. W. L. Sclater in the 'Ibis,' 1901, p. 183, and named by him in honour of its discoverer. He was much interested in and greatly in favour of the establishment of the Union, to which he would undoubtedly have given much assistance. He was constant in his endeavour to induce the Cape Government to protect certain species of birds of service to the farmer, and, by the aid of local councils and municipalities, succeeded in his efforts in some few districts. He saw service during the war as a Lieutenant in Kitchener's Horse, and on the Staff of the 6th Corps, 2nd Brigade, Mounted Infantry. After leaving the Cape Service he had planned, and was carrying out, an extended collecting-tour in the north of Rhodesia, during which his death occurred from blackwater fever at Sipolilos, a station about one hundred miles north of Salisbury. His last collection, made on this expedition and containing many rare specimens, has been obtained by the Transvaal Museum.

OCCASIONAL NOTES.

(1) THE Hon. Secretary has received extremely kind letters from Dr. P. L. SCLATER, Captain SHELLEY, Mr. R. TRIMEN, and Professor A. REICHENOW, in which they all express their thanks to the Members of the Union for having done them the honour of electing them as Honorary Members.

(2) Captain SHELLEY, whose address is 39 Egerton Gardens, London, S.W., kindly offers to compare with and

identify from the type specimens in the British Museum any skins collected by Members of the Union of which they may be in doubt, and to answer any queries upon South African Ornithology.

(3) THE thanks of the Union are due to Mr. Julius Jeppe, Johannesburg, and Mr. E. F. Bourke, M.L.C., Pretoria, for donations of £2 2s. each to the Illustration Fund of the Journal.

(4) AT the ordinary monthly meeting of the Johannesburg Field Naturalists' Club, held in Lancaster Buildings on the 16th December, 1904, the Hon. Secretary (Mr. H. A. Fry) read an interesting paper on a collecting-trip to Parys (on the Vaal River, in the Orange River Colony), and exhibited specimens of the eggs of *Bubulcus ibis* (Buff-backed Egret), of which he had found a colony nesting in willows near the river.

At the same meeting Mr. Duncan exhibited the eggs of *Thamnolea cinnamomeiventris* (White-shouldered Bush-Chat), taken from an old Swallow's nest at Orange Grove, near Johannesburg, on October 26th, 1902; they are very pale blue, marked with brown, chiefly at the larger end. Size $1 \times \frac{3}{4}$ in.

(5) IN the January number of 'The Ibis' (1904) appears the first part of a paper, by Dr. R. Bowdler Sharpe, on a collection of birds from the district of Deelfontein in Cape Colony. This paper is founded on a collection of skins, including 123 species, presented to the British Museum by Colonel Sloggett, C.M.G., Principal Medical Officer of the Imperial Yeomanry Hospital at that place.

The second part appears in the July number of the Journal, and is accompanied by a coloured plate of *Ægithalus caroli* (Anderson's Penduline Tit) and *Ægithalus capensis* (Cape Penduline Tit). The actual collecting was mainly

effected by two convalescent Troopers of the Imperial Yeomanry (Messrs. Seimund and Grant).

(6) IN the former number of 'The Ibis' appears an interesting article by the present President of our Union on "Saldanha Bay and its Bird-Islands." The nidification of many of the littoral species is described, and interesting tables relating to the collection of the guano and Penguin eggs from the various islands are shown.

(7) THE April number of 'The Ibis' (1904) contains a lengthy paper on a collection of birds from the neighbourhood of Port St. John, in Pondoland, by Mr. G. C. Shortridge, with preface and notes by Mr. W. L. Sclater. It describes 198 species, seven of which were new to Cape Colony.

(8) IN the April number of the 'Journal für Ornithologie' appears an exhaustive article entitled "Contributions to the Avifauna of North-east Africa, with special reference to the Zoogeography," by Carlo "Freiherr" von Erlanger. This paper is chiefly of interest, from a South African point of view, owing to the attention paid by the author to the variations which occur in the plumage of *Helotarsus ecaudatus* (Bateleur) on comparison of specimens taken by him in North-east Africa with those from South Africa.

(9) THE October number of 'The Ibis' (1904) contains an article by Major S. R. Clarke, F.Z.S., M.B.O.U., entitled "Field Notes on Birds obtained or observed at Bloemfontein. O.R.C., and at Ingogo, Natal, in 1901 and 1902." 176 species are referred to, and he records from Natal, for the first time, *Buteo desertorum* (Steppe Buzzard).

(10) THE October number (1904) of 'The Emu' contains a lengthy account of the foundation of the South African Ornithologists' Union, and proffers its congratulations upon its formation.

(11) THE thanks of the Union are due to H. L. L. Feltham, F.E.S. (Hon. President of the Johannesburg Field Naturalists' Club) for a donation of £10 10s. to the Illustration Fund, such donation to be allocated to the production of plates illustrative of any hitherto unfigured birds, nests, or eggs obtained by Transvaal collectors, and more particularly by Members of the Johannesburg Field Naturalists' Club.

(12) THE scientific and English nomenclature in this number of the Journal is taken from the first three volumes of Stark and Selater's 'South African Fauna: Birds'; and, for those species not included in those first three volumes, from Dr. R. Bowdler Sharpe's edition of Layard's 'Birds of South Africa.' It is anticipated that the fourth and last volume of the more recent work will within a few months be issued from the press, and the nomenclature will in subsequent issues of this Journal follow entirely that of this production.

NOTICES.

GENERAL.

THE address of the Hon. Secretary and Treasurer (*pro tem.*) of the Union is as follows:—

A. HAAGNER, Esq., F.Z.S., M.B.O.U.,

Dynamite Factory,

Modderfontein.

Near Johannesburg, Transvaal.

ANY person desirous of joining the Union should communicate with the Hon. Secretary.

THE Annual Subscription is £1 1s., and all Members of the Union receive a free copy of all its publications. Subscriptions for 1905 are now due.

COPIES of the Journal can be purchased at the following rates:—

	<i>s.</i>	<i>d.</i>	
By Members of the Union...	2	6	per copy
Non-Members	4	0	„

and can be obtained from the Hon. Secretary.

EDITORIAL.

THE Editors invite contributions on South African Ornithology from all students.

Drawings (which, for the purpose of ease of reproduction, should be, as far as possible, in line and without wash) and photographs from nature will be gladly welcomed. Original MSS. drawings and photographs will, if desired, be returned, after publication, to their owners.

All documents intended for publication should be forwarded to A. HAAGNER, Esq., Dynamite Factory, Modderfontein, Transvaal.

This Journal will be issued as often as the funds of the Union permit, subject, of course, to there being sufficient matter suitable for publication.

Ten copies of every paper published in the Journal will be reserved for the author free of charge, and fifteen further copies will be retained by the Editors and will be available for purchase by Members of the Union at low prices varying according to the length of the printed matter.

The Editors will be pleased to answer, to the best of their ability, through the medium of this Journal, any questions relating to ornithological matters, and to identify ornithological specimens submitted to them.

In cases where an immediate answer is required, a reply will be forwarded through the post if a stamped addressed envelope is enclosed with the enquiry.

The Editors respectfully draw attention to the necessity for support to the Illustration Fund, and invite subscriptions thereto.



Photo by R. H. Ivy, Grahamstown.

ANTHROPOIDES PARADISEA (Stanley Crane).

EDITORIAL NOTE.

ALTHOUGH, for some reasons, it might have been preferable to delay the publication of this issue of the Union's Journal, it has been thought, after careful consideration, that it would be desirable to issue two numbers in the current year.

A quantity of matter, which it was hoped would be available, has, for unavoidable reasons, been temporarily held over in order that careful verification and investigation of certain points may take place before publication.

It is satisfactory to note that the first number of the Journal has been received on all sides with gratification, and it is trusted that the standard which was therein set may be maintained in the future.

It is requested that any suggestions for the improvement of the Journal which may occur to Members of the Union will be forwarded without hesitation. It will be observed that some slight alterations in the arrangement of the text have already been effected.

So far as can be at present judged, it is considered that the Union should not endeavour to publish more than two numbers annually, and it is confidently thought that if this course is adopted the standard of the matter published and the accuracy of the contents of the Journal can be safely guaranteed.

W. L. SCLATER.
J. W. B. GUNNING.
JOHN A. BUCKNILL.

1st October, 1905.

THE JOURNAL
OF THE
SOUTH AFRICAN ORNITHOLOGISTS' UNION.

Vol. I.

DECEMBER 1905.

No. 2.

VI.—*Notes on the Water-Birds of the Zwaartkops River, Port Elizabeth, Cape Colony.* By JAMES G. BROWN.

[THE Zwaartkops is a tidal river and salt for a distance of some eight or ten miles from its mouth. In addition to the species enumerated by me below, Lient. Whitehead has recorded the occurrence in the same locality of *Totanus ochropus* (Green Sandpiper), *Totanus calidris* (Redshank), and *Ægialitis cantiana* (Kentish Sand-Plover). As, however, I have not observed these species personally I have omitted them from my list.]

1. PORZANA BAILLONI (Hermann). (Baillon's Crake.)
(Layard, p. 614.)

Scarce ; found on the pools of the higher parts of the river.

2. RALLUS CÆRULESCENS. (Caffre Rail.)
(Layard, p. 610.)

Fairly common ; difficult to shoot.

3. LIMNOCORAX NIGER. (Black Crake.)
(Layard, p. 618.)

Rare : this class of bird is difficult to observe ; they may be a good deal more plentiful than is supposed.

4. GALLINULA CHLOROPUS. (Moor-hen.)

(Layard, p. 623.)

Scarce : resident. Very active towards evening.

5. PORPHYRIO ALLENI. (Allen's Purple Gallinule.)

(Layard, p. 621.)

Very rare : only once obtained.

6. PORPHYRIO SMARAGDONOTUS. (Green-backed Purple Gallinule.)

(Layard, p. 619.)

Fairly common on the reedy pools near Uitenhage.

7. FULICA CRISTATA. (Red-knobbed Coot.)

(Layard, p. 621.)

Very common at times : lives in both the fresh- and salt-water portions of the river.

8. PODICA PETERSI. (Peters' Fin-foot.)

(Layard, p. 625.)

Only one specimen seen and obtained.

*9. ANTHROPOIDES PARADISEA. (Stanley Crane.)

(Layard, p. 628.)

A colony of these fine birds is located at Zwaartkops and another at the Drift-sands, south of Port Elizabeth. Flocks are often seen passing to and fro flying high over the town.

10. ŒDICNEMUS VERMICULATUS. (Vermiculated Thick-knee.)

(Layard, p. 647.)

Only a single specimen seen and shot near Redhouse.

11. ŒDICNEMUS CAPENSIS. (South African Thick-knee.)

(Layard, p. 645.)

A common resident : I only once found a pair on the sea-beach.

12. CHETTUSIA CORONATA. (Crowned Lapwing.)

(Layard, p. 670.)

This bird is a resident, going about in pairs during summer,

* Plate : *vide* Frontispiece.

and associating with the succeeding species when it arrives in April.

13. *CHETTUSIA MELANOPTERA*. (Black-winged Lap-wing.)

(Layard, p. 669.)

A regular winter migrant to this locality; common and spread all over the country.

14. *SQUATAROLA HELVETICA*. (Grey Plover.)

(Layard, p. 658.)

A rather uncommon summer visitor.

15. *EUDROMIAS ASIATICUS*. (Asiatic Dotterel.)

(Layard, p. 665.)

An almost regular summer visitor, arriving in large flocks. Occurs both in breeding and non-breeding plumage. Found on the flats away from the water.

16. *ÆGIALITIS TRICOLLARIS*. (Treble-collared Sand-Plover.)

(Layard, p. 662.)

Not very common. Resident. More plentiful in winter.

17. *ÆGIALITIS HIATICULA*. (Common Ringed-Plover.)

(Layard, p. 660.)

Very common in summer. Occurs on the river, the sea-shore, and the grassy flats away from water. Specimens vary in size.

18. *ÆGIALITIS MARGINATA*. (White-fronted Sand-Plover.)

(Layard, 659.)

A common resident. It is never found away from the water.

19. *ÆGIALITIS VARIA*. (Kittlitz's Sand-Plover.)

(Layard, p. 661.)

More often found on the flats away from water. The bulk migrate in winter; the few remaining then become very wild.

20. *ÆGIALITIS VENUSTA* (Fisch. & Reichenow). (Fischer's Sand-Plover.)

(= *Charadrius venustus*, Fischer & Reichenow.)

(Sharpe, Cat. B. M. xxiv. p. 286, 1896.)

This species has either only recently extended its range to South Africa or has been overlooked by former collectors. It was first recorded from this country by Lieut. C. H. T. Whitehead, M.B.O.U. It is now a regular visitor to this locality in winter and is usually found on the salt "pans"; rarely on the river.

[This rare species has only been, as yet, recorded once from South Africa (Annals S. African Mus. vol. iii. part viii., paper ix. p. 359, 1905), and the type specimens were described from skins obtained in Masailand, where it inhabits the salt lakes. As the S. African locality in which it has already been recorded is at Port Elizabeth, there is no reason to doubt the accuracy of Mr. Brown's remarks, which will, it is hoped, shortly be established by the production of specimens. The species was first described by Fischer and Reichenow, in the Journ. für Ornithologie, 1884, p. 178, as *Charadrius venustus* (*vide* also Reichenow, Vög. Afr. i. p. 173, 1900).—EDITORIAL NOTE.]

21. *RECURVIROSTRA AVOCETTA*. (Avocet.)

(Layard, p. 673.)

An occasional visitor in summer. When wading in very shallow water they draw the bill from side to side along the bottom, but in deeper water dive their heads under water like Ducks. When at rest the neck is drawn in Plover-like and often one leg is slightly drawn up. I found them very tame.

22. *NUMENIUS ARCUATUS*. (Common Curlew.)

(Layard, p. 692.)

Common on the river and surrounding country.

23. *NUMENIUS PHÆOPUS*. (Whimbrel.)

(Layard, p. 693.)

This species is not nearly so common as the Curlew. It is



Photo by R. H. Ivy, Grahamstown.

STRIX CAPENSIS (Grass Owl).

found with other waders on the mud-banks. I have not seen them away from water.

24. *TOTANUS STAGNATILIS.* (Marsh Sandpiper.)
(Layard, p. 690.)

This is a rather scarce species. I have found them in the company of other allied Sandpipers.

25. *STREPSILAS INTERPRES.* (Turnstone.)
(Layard, p. 671.)

The Turnstone is a regular visitor in small numbers during summer. I found that when pressed they can swim well.

26. *HÆMATOPUS CAPENSIS.* (African Black Oyster-Catcher.)
(Layard, p. 672.)

Found in pairs: they have become rather rare of late.

27. *TRINGOIDES HYPOLEUCUS.* (Common Sandpiper.)
(Layard, p. 686.)

A few of these birds can always be found in the muddy creeks during the summer. One which I shot and winged swam away like a Duck. When pursued in the water it at once dived and swam under water like a Grebe.

28. *TOTANUS CANESCENS.* (Greenshank.)
(Layard, p. 687.)

A common summer visitor to this locality.

29. *TOTANUS GLAREOLA.* (Wood Sandpiper.)
(Layard, p. 690.)

Met with singly or in the company of other Sandpipers. Often only a single bird is found on the margin of a little pool of water far away on the flats and quite away from the river or large dams.

30. *MACHETES PUGNAX.* (Ruff.)
(Layard, p. 685.)

Found in flocks all over the country; sometimes far from water. It only occurs here in summer.

31. *CALIDRIS ARENARIA.* (Sanderling.)
(Layard, p. 684.)

An irregular visitor during our summer months.

32. *TRINGA MINUTA*. (Little Stint.)

(Layard, p. 681.)

Very common in summer ; a fair proportion remain with us all the year round. Specimens are sometimes seen in the first stages of breeding-plumage.

33. *TRINGA SUBARQUATA*. (Curlew Sandpiper.)

(Layard, p. 682.)

Common during the summer months, a few remaining to winter with us. Two specimens were obtained in breeding-plumage.

34. *GALLINAGO NIGRIPENNIS*. (Black-quilled Snipe.)

(Layard, p. 676.)

Scarce on the mud-banks of the river, but more often found on the vleis.

35. *RHYNCHÆA CAPENSIS*. (African Painted Snipe.)

(Layard, p. 679.)

This is rather a rare bird here.

36. *HYDROCHELIDON HYBRIDA*. (Whiskered Tern.)

(Layard, p. 699.)

A rare and irregular visitor to the river. When they appear they spread themselves all over the country. Sometimes met with many miles from water.

37. *STERNA FLUVIATILIS*. (Common Tern.)

(Layard, p. 701.)

This and the Roseate Tern visit the river occasionally, the flocks being mixed ; this species, however, appears to be in the majority.

38. *STERNA DOUGALLI*. (Roseate Tern.)

(Layard, p. 702.)

Found in large flocks, often in company with other Terns.

39. *STERNA CASPIA*. (Caspian Tern.)

(Layard, p. 703.)

A regular visitor during our summer months. I have never seen them in large numbers.

40. STERNA CANTIACA. (Sandwich Tern.)

(Layard, p. 702.)

Occasionally met with in small flocks.

41. STERNA BERGIL. (Swift Tern.)

(Layard, p. 704.)

A little more plentiful than the Caspian Tern.

42. STERNA SAUNDERSI (Hume). (Saunders' Little Tern.)

(Saunders. Cat. B. M. xxv. p. 120, 1896.) (Cf. *Sterna minuta*: Little Tern. Layard, p. 705.)

A single specimen was picked up dead near the mouth of the river.

43. LARUS DOMINICANUS. (Southern Black-backed Gull.)

(Layard, p. 697.)

The common Sea-Gull of Algoa Bay. It is abundant on the sand-banks of the river.

44. HAGEDASHIA HAGEDASH. (Hadadah Ibis.)

(Layard, p. 739.)

Sometimes common in the neighbourhood of the river.

45. HERODIAS INTERMEDIA. (Short-billed White Egret.)

(Layard, p. 714.)

Rather a scarce summer bird ; it, however, visits the river every year.

46. HERODIAS GARZETTA. (Little Egret.)

(Layard, p. 716.)

A regular visitor in small numbers. I have never seen any in full breeding-plumage.

47. BUBULCUS IBIS. (Buff-backed Egret.)

(Layard, p. 717.)

Rare on the river ; they are more often found on the veld.

48. ARDEA CINEREA. (Common Heron.)

(Layard, p. 708.)

Not very common ; they spread themselves all over the country. A single bird is usually seen.

49. *HERODIAS ALBA*. (Great White Heron.)

(Layard, p. 714.)

This bird is reported to occur on the river, although I have not seen it.

50. *ARDEA PURPUREA*. (Purple Heron.)

(Layard, p. 710.)

A regular summer visitor, but rather scarce; very seldom found in breeding-plumage.

51. *NYCTICORAX GRISEUS*. (Night Heron.)

(Layard, p. 724.)

Scarce; found on the freshwater part of the river. They conceal themselves perched on trees.

52. *BOTAURUS PUSILLUS*. (African Little Bittern.)

(Layard, p. 720.)

Found in fair numbers in the weedy portions of the river, although they do not keep so much to the reeds and bushes as the larger Bittern does.

53. *BOTAURUS CAPENSIS* (Ayres). (African Bittern.)(Ogilvie-Grant, Cat. B. M. xxvi. p. 257, 1898.) (Cf. *Botaurus stellaris*: Common Bittern. Layard, p. 722.)

Found in the reed-beds of the freshwater part of the river. It is very seldom seen. I believe it to be a local resident.

54. *SCOPUS UMBRETTA*. (Hammer-head.)

(Layard, p. 725.)

Common resident. Only seen singly, except during the breeding-season.

55. *CICONIA ALBA*. (White Stork.)

(Layard, p. 728.)

These Storks are only occasionally seen; generally in large flocks.

56. *CICONIA NIGRA*. (Black Stork.)

(Layard, p. 729.)

A regular summer visitor. It is usually seen in small flocks—sometimes singly. They are becoming scarcer every year.

57. PSEUDOTANTALUS IBIS. (African Wood-Ibis.)

(Layard, p. 735.)

I have only seen this species twice.

58. PHALACROCORAX LUCIDUS. (South African Cormorant.)

(Layard, p. 779.)

Common, especially near the mouth of the river.

59. PHALACROCORAX CAPENSIS. (Cape Cormorant.)

(Layard, p. 780.)

This is the commonest Cormorant in this locality. Found singly, in pairs and in large flocks.

60. PHALACROCORAX AFRICANUS. (Long-tailed Cormorant.)

(Layard, p. 781.)

Scarce : often found on the fresh water.

61. PLOTUS LEVAILLANTI. (African Darter.)

(Layard, p. 782.)

Seen only once on the fresh water near Uitenhage.

62. PHENICOPTERUS ERYTHRÆUS. (Greater South African Flamingo.)

(Layard, p. 744.)

Formerly very common at the mouth of the river, but I have seldom seen them there of late.

63. NETTAPUS AURITUS. (African Dwarf Goose.)

(Layard, p. 750.)

Sometimes occurs in fair numbers on the pools of the higher part of the river.

64. ANAS SPARSA. (Black Duck.)

(Layard, p. 756.)

Scarce. After very wet seasons they occur in fair numbers.

65. ANAS XANTHORHYNCHA. (Yellow-billed Teal.)

(Layard, p. 755.)

Fairly common. This species and the Red-billed Teal (*Pæcilonetta erythrorhyncha*) are the Ducks most commonly found here.

66. QUERQUEDULA HOTTENTOTTA. (Hottentot Teal.)

(Layard, p. 757.)

Only once seen and shot near Uitenhage.

67. PÆCILONETTA ERYTHORHYNCHA. (Red-billed Teal.)

(Layard, p. 754.)

This is the commonest Duck on the river. I once found a small flock on the salt water within a few hundred yards of the sea. This is the only occasion on which I have seen any of our wild Ducks on sea-water.

68. THALASSORNIS LEUCONOTA. (White-backed Duck.)

(Layard, p. 761.)

Very rare: only observed on two occasions.

69. PODICEPS CAPENSIS (Ogilvie-Grant). (South African Little Grebe.)

(Ogilvie-Grant, Cat. B. M. xxvi. p. 513, and plates vii. & viii.) (Cf. *Podiceps minor*: Little Grebe. Layard, p. 787.)

Common at times. These birds seem incapable of walking on land and are seldom found many inches from water. When surprised on the edge of a pool they fall forward and flapping their wings quickly drag themselves in.

VII.—*A further Contribution to the Ornithology of Modderfontein, Transvaal.* By ALWIN K. HAAGNER, F.Z.S., M.B.O.U.

[Supplementary to three papers published previously (*q. v.* Ibis, 1901, pp. 15 & 190; *ibid.* 1902, p. 569).]

IN 'The Ibis' of October 1902 I published a list of Birds found at Modderfontein. This place is somewhat peculiarly situated, as, although geographically and for administrative purposes regarded as in the Pretoria District, it is very much nearer to Johannesburg, being over thirty miles from the former town and only about ten from the latter. Owing also to topographical changes in the neighbourhood, the bird-life

has somewhat altered within the last few years, the formation of plantations and water-reservoirs being responsible for a considerable number of additions to the local avifauna.

The more common species mentioned below were originally omitted by me from my 'Ibis' list, owing to the absence at that time of any recent works of reference—a want now partly filled by the publication of the first three volumes of Messrs. Stark & Selater, dealing with Birds, in the "Fauna of South Africa" series.

All measurements here recorded by me were taken from specimens in the flesh.

In my 'Ibis' list I enumerated seventy-five species found at or near Modderfontein.

76. *LAMPROCOLIUS SYCOBIUS*. (Peters' Glossy Starling.)

Occasionally met with. Further north it is a little more common.

77. *ORIOLOUS LARVATUS*. (Black-headed Oriole.)

A single specimen frequented my garden for some days during June of 1905.

78. *DILOPHUS CARUNCULATUS*. (Wattled Starling.)

Several flocks have passed at various times, in pursuit of flights of locusts.

79. *SITAGRA CAPENSIS CAFFRA*. (Eastern Cape Weaver Bird.)

Fairly common. A colony bred during October and November 1903 amongst Eucalyptus trees growing on the shores of one of the local dams. The eggs, two to four in number, were of a bright blue colour. Although reeds and rushes were abundant in the locality, the birds chose the trees as nesting-sites.

80. *PYTELIA MELBA*. (Southern Red-faced Weaver Finch.)

Only one specimen: obtained in 1898.

81. *LAGONOSTICTA RUBRICATA*. (South African Ruddy Waxbill.)

Scarce.

82. *LAGONOSTICTA BRUNNICEPS*. (Little Ruddy Waxbill.)

A pair frequented some dead trees, which had been uprooted from a garden, for some weeks in June, feeding on seeds on the ground. These little birds have a sweet twittering song.

83. *ESTRILDA ANGOLENSIS*. (Blue-breasted Waxbill.)

Somewhat scarce and local.

84. *ESTRILDA SUBFLAVA*. (Orange-breasted Waxbill.)

Fairly common at times.

85. *ORTYGOSPIZA POLYZONA*. (Bar-breasted Weaver Finch.)

Common: feeding in flocks amongst the rank weeds and grass bordering the dams and spruits.

86. *AMADINA ERYTHROCEPHALA*. (Red-headed Weaver Finch.)

Fairly common at times. During the late autumn of 1899 I took several nests here. This year I have not as yet noticed them in any number.

87. *QUELEA QUELEA*. (Red-billed Weaver.)

Common migrant. This bird is a winter visitor, feeding in flocks amongst the dried weeds and on old "lands." It is, however, apparently resident at Irene, twenty miles north of Modderfontein. A migratory swarm in transitional plumage passed Modderfontein early in February, staying here only a few days.

88. *SERINUS ANGOLENSIS*. (Black-throated Seed-eater.)

Not common: arriving occasionally in small flocks. Very fond of feeding on the seed-pips of the sunflower.

89. *FRINGILLARIA CAPENSIS*. (Cape Bunting.)

Not common.

90. *MIRAFRA AFRICANA*. (Rufous-naped Lark.)

Fairly common.

91. *TEPHROCORYS CINEREA*. (Red-capped Lark.)

Common on the veld, particularly by the side of roads and pathways.

92. *CERTHILAUDA RUFULA*. (Rufous Long-billed Lark.)
Fairly common amongst the rocky outcrops on the veld.

93. *MACRONYX CROCEUS*. (Yellow-throated Long-claw.)
Occasionally met with in the company of *M. capensis* (Orange-throated Long-claw).

94. *ANTHUS PYRRHONOTUS*. (Cinnamon-backed Pipit.)
A common resident, met with in pairs during summer and assembling in small flocks throughout the winter.

95. *ANTHUS RUFULUS*. (Lesser Tawny Pipit.)
Fairly common resident: during winter occasionally found consorting with the previous species, from which it can be easily distinguished by its duller coloration.

96. *ZOSTEROPS VIRENS*. (Green White-eye.)
Common at times. A great fruit thief.

97. *PARISOMA SUBCÆRULEUM*. (Tit-Babbler.)
Scarce: commoner to the north of Pretoria.

98. *CISTICOLA FULVICAPILLA*. (Tawny-headed Grass-Warbler.)

A scarce resident. I took a nest on the 29th December, 1903. It was constructed of grass in the shape of a circular pouch or pocket in a tuft of herbage, and lined with a thick felt-like padding of the flower-heads of various grasses. It contained three eggs of a pale blue, marked with a few scattered purplish-red spots of varying size.

99. *CISTICOLA ABERRANS*. (Smith's Grass-Warbler.)

A common resident. I took a nest on 12th March, 1904. It was of the same shape, size, and texture as that of the preceding species, but not so thickly lined. The clutch consisted of three pure white eggs—hard set—shaped like those of *Cisticola subruficapilla* (Grey-backed Grass-Warbler) and measured 16 × 11 mm.

100. *CISTICOLA SUBRUFICAPILLA*. (Grey-backed Grass-Warbler.)

An abundant resident. I found a nest on 23rd November, 1904, containing two eggs of the same ground shade as

those of *C. fulvicapilla* (Tawny-headed Grass-Warbler), but marked with much smaller and more regular spots. I obtained the female, which was identified by Mr. W. L. Slater, to whom it was sent. The head was of a plain rufous colour and *not* streaked with dark brown.

101. *TURDUS CABANISI*. (Cabanis' Thrush.)

Scarce. Apparently a resident; specimens obtained:

(1) Adult ♀ : 30.12.04.

(2) Immature ♂ : 6.1.05.

(3) Adult ♀ : 28.5.05.

The second specimen (evidently only recently out of the nest) had the breast spotted; upper breast pearl-grey tinged with yellow; lower breast and abdomen light cinnamon-yellow.

102. *MYRMECOCICHLA FORMICIVORA*. (Ant-eating Chat.)

A common resident. Always seen perched on an ant-heap or fluttering up into the air with a feeble flight.

103. *COTILE PALUDICOLA*. (South African Sand-Martin.)

Scarce.

104. *HIRUNDO RUSTICA*. (European Swallow.)

Common migrant. Usually arrives in October. On 29th December, 1904, I found a pair (♂ & ♀) lying dead in a recess of a bank near the ford of the Johannesburg-Pretoria road on the Jokeskei River. They had evidently succumbed to a severe spell of wet and cold weather during the previous week—a most unusual occurrence with us at that season of the year.

105. *CORACIAS GARRULUS*. (European Roller.)

One specimen obtained in December, 1902.

106. *CORACIAS CAUDATUS*. (Moselikatze's Roller.)

I obtained a female in full plumage on the 28th May, 1904. Iris clear brown; bill black; feet and legs blackish yellow. I subsequently saw a male.

107. *CERYLE MAXIMA*. (Giant Kingfisher.)

A pair occasionally seen.

108. HALCYON ORIENTALIS. (Peters' Kingfisher.)

I saw a solitary specimen of this bird two years ago whilst fishing on one of the local dams. I had no gun with me at the time, but noted down a careful description, and I think the identification quite satisfactory. Its large size, which far exceeds that of any other South African Kingfisher except *Ceryle maxima*, is alone sufficiently distinctive.

109. COLIUS ERYTHROMELON. (Red-faced Mouse-bird.)

A common resident and our greatest fruit thief. Owing to the attentions of these birds our apricot crop was a very poor one last season. They are particularly partial to this fruit and to figs. Mr. Selater in his 'Fauna of S. Africa: Birds,' vol. iii., gives no description of juvenile plumage, and I therefore append some details of an immature male shot on the 23rd March, 1905. This specimen was flying in company with a flock of old birds. Length $9\frac{1}{16}$ in.; wing $3\frac{1}{2}$ in. Bill: tip horn-colour, remainder yellowish-green merging into a slatish tinge at the base and edges; yellowish-green naked skin round eye; iris dusky grey; legs and feet magenta; claws black. The under surface of the body is paler than that of the adult.

110. IYNX RUFICOLLIS. (South African Wryneck.)

Scarce: adult specimens obtained in 1902 and 1905. Iris light yellowish brown; bill horn-colour; feet and legs greenish slate. Length $7\frac{3}{4}$ in.; wing $3\frac{5}{8}$ in. This bird is apparently a resident, as I have seen it in February, April, and July. Mr. John A. Bucknill shot an adult on the banks of the Crocodile River about twenty miles west of Pretoria on December 26th, 1902.

111. LYBIUS TORQUATUS. (Black-collared Barbet.)

Resident and breeding, though scarce.

112. TRICHOLÆMA LEUCOMELAS. (Pied Barbet.)

Common resident.

113. COCCYSTES HYPOPINARIUS. (Black-and-Grey Cuckoo.)

This bird is only an occasional visitor to Modderfontein, although I found it fairly common in February on Vast-

fontein (a farm on the Aapies River, about six miles north of Waterval North). They go about in pairs, and have a harsh laughing cry.

114. *CENTROPUS BURCHELLI*. (Burchell's Coucal.)

A single specimen obtained.

115. *STRIX FLAMMEA*. (Barn Owl.)

Somewhat scarce. One obtained 25th February, 1904.

116. *ACCIPITER MINULLUS*. (Little Sparrow Hawk.)

Rare.

117. *CIRCUS CINERACEUS*. (Montagu's Harrier.)

Rare.

118. *CIRCUS RANIVORUS*. (South African Harrier.)

Not at all common.

119. *MELIERAX GABAR*. (Gabar Goshawk.)

One seen 24th June, 1905.

120. *TURTUR SENEGALENSIS*. (Senegal Turtle-Dove.)

Common resident. On the 15th March, 1905, I took a nest with two eggs from a *Maerocarpa* tree. The nest was built of the roots and ends of coarse grass with a saucer-shaped lining of fine roots—a much more solid structure than that usually put together by *T. capicola* (Cape Turtle-Dove).

121. *NUMIDA CORONATA*. (Crowned Guinea Fowl.)

This bird has found its way into our plantations from the scrub on the Jokeskei River—no doubt attracted by the one time domesticated birds liberated there for sporting purposes some years ago.

122. *OTIS CÆRULESCENS*. (Blue Bustard.)

Scarce on Modderfontein and the neighbourhood, but I found it very common at Vastfontein near Waterval North on the Aapies River.

123. OTIS SCOLOPACEA. (Pink-coloured Bustard.)
Very scarce ; only one specimen procured—in 1897.

124. OTIS LUDWIGI. (Ludwig's Bustard.)
Scarce. I have seen several pairs here.

125. GLAREOLA MELANOPTERA. (Black-winged Pratincole.)

Common migrant. I have seen these birds in small parties after a rain hawking flying ants on the wing. Their evolutions in the air are extremely graceful and most interesting to watch. On March 5th, 1905, I saw a large crescent-shaped flock flying *southwards*.

126. PARRA AFRICANA. (African Jacana.)

Scarce visitor. I have seen several pairs here during the course of the last few years, feeding on the weeds growing in the waters of our dams.

127. PARRA CAPENSIS. (Lesser African Jacana.)

One specimen seen 2nd June, 1905.

128. TRINGA MINUTA. (Little Stint.)

A fairly common migrant, feeding along the shores of our dams.

129. TOTANUS GLAREOLA. (Wood Sandpiper.)

Fairly common during late summer and autumn.

130. HYDROCHELIDON HYBRIDA. (Whiskered Tern.)

A common autumn migrant. This bird was very common during February and March, flying about the shores of one of the local dams. They were then in non-breeding or winter plumage.

131. HAGEDASHIA HAGEDASH. (Hadadah Ibis.)

Very scarce : one immature ♂ procured.

132. IBIS ÆTHIOPICA. (Sacred Ibis.)

Scarce : an autumn and winter visitor.

133. *BUBULCUS IBIS*. (Buff-backed Egret.)

Not common.

134. *CICONIA ALBA*. (White Stork.)

A straggler to the local waters.

135. *CHENALOPEX ÆGYPTIACA*. (Egyptian Goose.)

An occasional visitor.

136. *PLECTROPTERUS GAMBENSIS*. (Spur-winged Goose.)

Several obtained from the local dams.

137. *PÆCILONETTA ERYTHORHYNCHA*. (Red-billed Teal.)

Common migrant.

138. *ANAS XANTHORHYNCHA*. (Yellow-billed Teal.)

Scarcer than the Red-billed Teal.

139. *ANAS SPARSA*. (Black Duck.)

This pretty Duck arrived here in fair numbers in April, and may be recorded as a common migrant to Modderfontein. They rise readily and afford good sport.

140. *ANTHROPOIDES PARADISEA*. (Stanley Crane.)

This stately bird is not uncommon in this vicinity, but I have never found it frequenting the dams; they may usually be seen in pairs on the veld during the breeding-season, and assemble in small flocks of from six to twenty individuals during winter. I have come across both eggs and young, the latter resembling rather closely young Ostrich chicks. The eggs seem to vary considerably in size, shade, and markings. The largest I have seen measure 3.937×2.519 in.

141. *PTEROCLES NAMAQUA* (Namaqua Sand-Grouse.)

Common migrant.

142. *FRANCOLINUS GARIEPENSIS*. (Orange River Francolin.)

Fairly common in the plantations and moving to the open veld to feed at sunset.

VIII.—Notes on the Genus *Pyromelana* (*Bishop Birds*), with reference in particular to the Seasonal Changes of Plumage and Nidification in Captivity of *P. oryx* (*Red Bishop Bird*). By A. DUNCAN.

THIS genus is according to Sclater ('Fauna of South Africa : Birds,' vol. i. p. 125) represented in South Africa by three species and two subspecies—*P. oryx* (*Red Bishop Bird*), *P. taha* (*Taba Bishop Bird*), and *P. capensis* (*Black-and-Yellow Bishop Bird*) constituting the former ; whilst the latter, *P. capensis minor* (*Smaller Yellow-and-Black Bishop Bird*) and *P. capensis xanthomelæna* (*Black-thighed Bishop Bird*), only differ from *P. capensis* in minor characteristics. Since the publication of the above work it may be noted that *P. oryx* has itself been separated into two forms differing only, though considerably, in size : the larger form, which retains the old Latin and English names, being regarded as a southern type confined to Cape Colony, and the smaller, which is known as *P. oryx sundevalli* (*Northern Red Bishop Bird*), as occurring in Natal, Zululand, the Transvaal, Rhodesia, the Bechuanaland Protectorate, and German South-west Africa. A species new to South Africa, but of wide tropical distribution, *P. flammiceps* (*Zambesi Bishop Bird*), has been added to the list, having been procured south of the Zambesi, and the name of *P. capensis minor* has been changed to *P. capensis approximans* upon the authority of Reichenow (*vide* 'Annals of the South African Museum,' vol. iii. part viii. 9, July 27th, 1905).

As the range of *P. capensis xanthomelæna* does not extend south of Rhodesia, I have no experience of this subspecies, and my remarks only refer to those forms of *P. oryx* and *P. capensis* which are found in the Transvaal and to *P. taha*.

These birds are lovers of the borders of marshy ground, and in their summer dress are conspicuous for their bright and striking plumage, which, as a rule, arrests the attention of the most casual observer. During the winter, on the other hand, they are singularly inconspicuous in a garb of

plain brown. I have for some time had these birds under close observation in captivity with a view of following the exact course of the changes of plumage which occur. I may state that my aviary is eighteen feet long, eight feet wide, and eight feet high: one half is roofed in, and the other covered with wire netting: the floor is the natural soil, in which is placed a cement bath: the cage contains two trees and plenty of reeds.

Under these conditions I have found that these birds thrive well.

In their winter plumage of plain unattractive brown there is little noticeable except that the centres of the feathers are darker than the edges. The two sexes are then so much alike as to render them almost indistinguishable: *oryx* completely throws off its summer tints, *taha* retains its yellow tail-coverts and *capensis* its yellow rump.

In their wild state September is their moulting month, but, for some reason which, I presume, may be due to their state of captivity, the first signs of change of plumage do not take place in my aviary until October.

In the male the first indication of moult is shown by the appearance of a few black feathers at the base of the upper mandible, but, after this first alteration, there is no definite rule—some assuming the feathers of the head first, others of the back or breast, and others their tail-coverts.

In this moult they change their feathers and colour with the exception of the wings and tail. The bill becomes jet-black, whilst the legs retain the horn-colour of the winter dress. With the change of plumage the character of the birds alters considerably. Many of the feathers are erected at will, the effect being to impart a depth and intensity of tone to the colour of which the preserved skin gives but a poor idea.

Oryx in its summer plumage of scarlet and black becomes extremely pugnacious and amatory, each bird selecting, as a rule, a particular perching place, from which it endeavours to drive any intruder, particularly of its own species. It menaces any trespasser with every feather erect and shrill

repetition of its harsh note. If the intruder happens to be a female, it performs various amusing antics to attract attention.

The male is far more industrious in the building of the nest than the female. In the aviary, although supplied with an abundance of different materials, they seem to prefer long fine grass, but, although it is stated by Dr. Stark ('Fauna of S. Africa : Birds,' vol. i. page 128) that the nest is woven out of grass, my own experience has been that the birds *in the wild state* invariably use strips of the leaves of reeds for the purpose of nidification. The actual process of nest-building is extremely interesting: the bird, choosing a suitable spot amongst upright reeds, takes a blade of grass in its bill and perches on an upright reed-stem, holding the grass at the same time with the foot; it then passes the grass round the reed-stem, brings the end under the loop and forms a knot; passing to the next upright it repeats the manoeuvre, and returns in the same way to and fro till the grass-length is used up. This process is repeated with fresh blades until the bird forms quite a strong bar between the uprights. It then stands on this thick strand and builds the nest from this position. It now forms loops over its head—this being the portico of the nest—and then, bringing the grass from the portico in a circle, forms the back and bottom, fastening the blades to the bar on which it stands. This forms the skeleton of the structure. Through this framework the bird then weaves the grass, working from the outside, and, holding the grass close to the end with its bill, pushes it through, always looking to see when it emerges on the other side; it then grasps the protruded end, pulls it through and returns it the same way, till the grass-length is finished. In the wild state the bird is not particular about lining the nest, and I have found nests so thin that the blue eggs could be clearly seen through the walls; at the same time I have also seen them lined with with grass-heads. Whilst engaged in nest-building the bird keeps up a constant chatter. During the actual period of work on the nest and for some days after it has been completed, it will stoutly defend its handi-

work, but after a time suddenly appears to lose all interest and allows it to be pulled to pieces by other birds without concern. *Oryx* is a destructive bird and mischievously tears to bits everything it can. I planted a live tree and some reeds in my aviary, but directly a bud appeared on the tree or a shoot on the reeds they were promptly torn off and dropped on the ground.

I have come to the conclusion that the males are several years old before they assume full breeding-plumage, as I have two in my aviary which have now moulted three times without changing their colour.

It may be asked how I can be certain that these two specimens are really males seeing that their coloration is so nearly identical with that of the female ; but I identify them in the first place by their plumage being slightly darker (as is also the case with the males in winter), secondly by their larger size, and lastly by their unmistakable attitude towards the females in the breeding-season.

I am also inclined to think that *oryx* is not so polygamous as is usually thought, the young males which do not assume breeding-plumage often being mistaken for females.

When undisturbed but emitting its harsh notes, *oryx* often interludes them with a few sweet notes like the twitter of a Swallow—notes so low and sweet that I had, at first, some difficulty in identifying their author.

In the month of March the autumnal moult is commenced, and it should at once be stated that, though the birds change colour from their brilliant black and scarlet to dull brown, the feathers are not cast.

With the change of colour in the feathers the bill loses its blackness and becomes horn-colour and more in keeping with the brown tint of the plumage. The birds also lose at the same time much of their pugnacious character.

I may also mention that as the plumage becomes brown it ceases to be erectile : this is most noticeable on the head, one half of which may be brown with the feathers lying close to the head, whilst the black feathers of the other half will be standing up like a ruff.



Photo by R. H. Ivy, Grahamstown.

TURACUS CORYTHAIX (Knysna Plainain Eater or Lourie)
with Nest and Eggs.

Most of the previous remarks applicable to *oryx* may also be applied to the other members of the genus which I have kept in confinement, although they are much quieter and less assertive in their manners. The nest-building of *taha* and *capensis* I am unable to describe, as they have never built in my aviary as yet.

I have never found the nest of *oryx* anywhere but in reeds: *capensis* is not so constant in choice of position, and I have sometimes discovered their nests in long grass: that of *taha* is generally observed well hidden in a tuft of grass in some damp locality.

OBITUARY.

WE regret to have to announce the death of the brilliant young ornithologist and explorer CARLO "FREIHERR" VON ERLANGER at the early age of 34. He was born at Ingelheim, Germany, on the 5th September, 1872, and succumbed to the effects of an unfortunate accident whilst driving in his motor-car on September 4th, 1904, at Salzburg. He was well known for his contributions on ornithological matters to the German journals, and was responsible for the creation of a large number of geographical subspecies, he being a systematist of the most modern school. From his school days he was an ardent naturalist, and at Frankfurt-a.-Maine, Lausanne, Cambridge (1895), and Berlin, in which places his education was conducted, he kept up his ornithological studies. His first important tour was in Tunis (1893-4), and in 1896 he organised an expedition to the Tunisian Sahara, the results of which made his name world famous. His discoveries on this journey were recorded in the 'Journal für Ornithologie' in 1898 and 1899. His next expedition led him, with a splendidly equipped party of associates, from Zeila on the Somaliland coast, through Adis Abeba to Kismayu, and he brought back no less than 8000 ornithological specimens! The results of

this journey have not yet been fully worked out, and his death—at a moment when his own assistance in the publication of his records would have been of the greatest value—is a sad loss to the ornithological world.

OCCASIONAL NOTES.

(1) THE Hon. Secretary has received a letter from Dr. BOWDLER SHARPE, expressing his thanks to the Members of the Union for having done him the honour of electing him an Honorary Member.

(2) Mr. LIONEL E. TAYLOR, of the Government Nurseries, Irene, Transvaal, has been elected a Member of the British Ornithologists' Union; and Mr. A. D. MILLAR, of Durban, has been elected as a Colonial Member of the same Association.

(3) THE thanks of the Union are due to Mr. Julius Jeppe, Johannesburg, for a donation of £10 towards the Illustration Fund of the Journal, such donation to be allocated to the production of plates illustrative of Transvaal birds or their eggs.

(4) AT a meeting of the Johannesburg Field Naturalists' Club, held on the 13th January, 1905, Mr. A. K. Haagner read an interesting paper upon the economic value of some of the commoner South African birds. In the discussion which subsequently arose the action of the Transvaal Game Protection Association in suggesting the offer of a reward for the destruction of all birds of prey was strongly condemned.

(5) THE Annual General Meeting of the Johannesburg Field Naturalists' Club was held in Norwich Union Buildings on the 6th day of March, 1905. There was a large attendance.

Mr. A. Duncan, of Johannesburg, exhibited a collection of Transvaal birds, including specimens of *Vidua regia* (Shaft-tailed Widow Bird) and *Coliopasser albonotatus* (White-winged Widow Bird). Mr. F. J. Ellemor, of Johannesburg, showed a small, but interesting, selection of Australian Cockatoos and Parakeets. Mr. J. Hyde exhibited a collection of English game-birds and water-fowl, and Mr. A. K. Haagner a number of interesting Transvaal specimens including *Parra africana* (African Jacana) and *Halcyon cyanoleucus* (Angola Kingfisher). The eggs of *Coliopasser albonotatus* (White-winged Widow Bird), taken by Mr. A. Duncan at Pienaar's River during the Christmas holidays, were also exhibited. They are a dark greenish blue, blotched with slaty brown, and measure $\frac{11}{16} \times \frac{9}{16}$ in. The officers for the ensuing year were elected as follows:—

President. Mr. J. Hyde.

Hon. President. Mr. H. L. L. Feltham, F.E.S.

Vice-President. Mr. F. J. Ellemor.

Hon. Treasurer. Mr. A. Duncan.

Hon. Secretary. Mr. H. A. Fry, P.O. Box 46, Johannesburg.

Librarian. Mr. A. J. Cooke.

Committee. Mr. A. K. Haagner, F.Z.S., M.B.O.U.; Mr. H. Livingstone; Mr. A. E. Ochse; Mr. Alex. Ross, F.Z.S.

(6) At the ordinary monthly meeting of the Johannesburg Naturalists' Field Club on the 5th June, 1905, the President (Mr. John Hyde) reported having obtained an immature specimen of *Monticola explorator* (Sentinel Rock-Thrush) at Waterval Onder, at Christmas 1897. At the same meeting a short paper was read by Mr. A. K. Haagner, on a collecting trip near Waterval North, Aapies River, during February 1905, and noted in particular the occurrence on the farm Vastfontein of *Pytelia melba* (Southern Red-faced Weaver Finch), *Sporopipes squamifrons* (Scaly-feathered Weaver Bird), *Laniarius atrococcineus* (Black-and-Crimson Shrike), *Coccytes hypopinari* (Black-and-Grey Cuckoo), *Lanius*

collurio (Red-backed Shrike), *Erythropygia pæna* (Smith's Ground-Robin), *Bradyornis mariquensis* (Mariqua Fly-catcher), and *Otis caeruleus* (Blue Bustard).

(7) AT a meeting of the East London Natural History and Scientific Society held on the 29th May, 1905, Mr. J. Wood read an instructive paper upon the modern methods of classification and identification of Birds. At the same meeting Mr. R. Center exhibited local specimens of *Parra africana* (African Jacana), *Campothera notata* (Knysna Woodpecker), and *Ceryle maxima* (Giant Kingfisher).

(8) THE Fourth International Ornithological Congress took place in London in June 1905, under the Presidency of Dr. R. Bowdler Sharpe. The official record of the proceedings is not yet published, but will be referred to in the next issue of this Journal.

(9) IN the next issue of the Journal it is hoped to publish a coloured plate of the hitherto unfigured eggs of six species of South African birds. The plate is at the time of going to press in the hands of the well-known artist Mr. G. H. Grönvoid.

(10) AS the fourth and last volume of Stark and Selater's 'South African Fauna: Birds' has not yet been issued, the nomenclature in this number of the Journal is still taken from the first three volumes of that work and for those species not therein included from Dr. R. Bowdler Sharpe's edition of Layard's 'Birds of South Africa.' In a few cases in which neither of these works mention species referred to in the Journal the full reference to the Catalogue of the British Museum is given.

SHORT NOTICES.

(1) IN the 'Annals of the South African Museum,' vol. iii. part viii. paper 9 (issued July 27th, 1905), is published "A Check-list of the Birds of South Africa, containing additions and corrections since the issue of the successive volumes of the Birds in the Fauna of South Africa Series," by W. L. Slater, M.A., F.Z.S., Director of South African Museum.

This is a most important publication, which should be in the hands of all students. It constitutes a complete list of all known South African species to date, and consists of three parts. The first is a short introduction detailing the reasons for the publication of the paper and enumerating with full references the more important contributions to South African ornithology which have appeared since the issue in 1900 of the first volume of the series referred to above. The second part comprises the key-list, and gives the Latin and English nomenclature and abbreviated notes as to the distribution of all species included, a large number of which are new to South Africa. The third part is composed of notes on many of the species referred to in the key-list in those cases in which explanation, or correction of previously published matter, is necessary.

It may be stated that the work is published by the Trustees of the South African Museum, Cape Town, from whom, or from the printers Messrs. West, Newman, & Co., of London, it can be obtained. (Price 2s. 6d.)

(2) THE July number (1904) of 'The Emu' contains an interesting paper by Mr. A. G. Campbell on "Insectivorous Birds," dealing with their economic utility. Mr. H. Kendall, co-editor of the journal since its inception, has, owing to business reasons, been compelled to resign, his place having been taken by Mr. C. S. Belcher, M.A., LL.B.

(3) IN the July number (1904) of the 'Journal für Ornithologie' appears a further instalment of the late von

Erlanger's "Contributions to the Avifauna of North-east Africa." The article is illustrated by a series of beautiful coloured plates.

(4) IN the 'Transvaal Agricultural Journal' for July (1905), Dr. J. W. B. Gunning, F.Z.S., contributes the fifth instalment of his publication "Birds in Relation to Agriculture." In this portion of his paper he deals with the Rollers, Kingfishers, Bee-eaters, Cuckoos, Woodpeckers, and Barbets. Dr. Gunning is of the opinion that the harm done by Kingfishers to fry in fish-ponds is completely outweighed by their utility in destroying creatures which are of little service to mankind.

(5) IN the 'Ornithologische Monatsberichte' of February 1905, under the title "New African Forms," Dr. Anton Reichenow describes a new species from South Africa:—

EREMOMELA BAUMGARTI (Rehw.).

Above grey; hinder rump-feathers with hidden white tips; dark lore stripe above which a lighter stripe; chin and under wing-coverts white; rest of under surface from lower throat to under tail-coverts cream-coloured; wing-feathers and rectrices dark grey-brown, the former edged with white on the inside, and the latter tipped with white.

Length: about 110 mm.; wing 55 mm.; tail 45 mm.; bill 10 mm.; tarsus 20 mm.

Locality. Windhoek, Damaraland (*Dr. Baumgart*).

In the same article Dr. Reichenow puts forward a new subspecies: *Eremomela flaviventris sharpei* (Rehw.).

With the help of a series of skins sent by Dr. Baumgart from Windhoek he confirms Dr. Sharpe's separation of the Damaraland form of *E. flaviventris*. He does not, however, allow the name of *E. damarensis*, proposed by Dr. Sharpe, to stand, on the grounds that this name was already given by Wahlberg to another member of the genus. This bird can

be distinguished from the type form by the pale drabish-grey-brown of its upper surface.

(6) IN the 'Smithsonian Miscellaneous Collections' for March 1905 appears a "Description of a new *Sylvietta*," by Harry C. Oberholser (of the United States Biological Survey). He apparently separates the Damaraland form of *Sylvietta rufescens* (Vieill.) (South African Crombec) on the strength of a *single* specimen collected by Mr. C. J. Andersson in Damaraland, and now in the collection of the United States National Museum, which he says "differs so greatly from the Cape Colony bird that it appears to represent a well-marked subspecies, which, as it seems to be undescribed, may be called *Sylvietta rufescens ochrocarra*, subsp. nov."

We need not give the full description of the bird. It differs from the type in being "very much paler both above and below, the lores and postocular stripe pale brown instead of blackish; the rump and upper tail-coverts more tawny; the lower surface not so uniform. Same size as *S. rufescens* typ."

Neither Andersson nor his Editor make any mention of a difference in the Damaraland form.

(7) IN 'The Emu' for January 1905 appears an important article entitled "The Geographical Origin and subsequent Development of the Land Birds of New Zealand," by Capt. F. W. Hutton, F.R.S., who is the President of the Australian Ornithologists' Union.

(8) THE January (1905) number of the 'Journal für Ornithologie' contains an obituary notice with a portrait of the ornithologist Carlo "Freiherr" von Erlanger.

(9) IN the same number of the same periodical appears the concluding portion of the deceased's papers entitled "Contributions to the Avifauna of North Africa." This

instalment is also illustrated by a number of excellent coloured plates, amongst which are figured the various geographical races or subspecies of *Turtur semitorquatus* (Red-eyed Dove) and *Turtur senegalensis* (Senegal Turtle-Dove).

(10) IN the January (1905) number of 'The Ibis' several interesting papers appear:—

1. Field-notes on the Birds of Efulen, in the West-African Colony of Kamerun, by George L. Bates.
2. Notes on the East-African Species of *Macronyx* and *Tmetothylacus*, by F. J. Jackson, C.B., C.M.G.—A new species, *Macronyx sharpei*, is figured (plate iii.).
3. An Ornithological Excursion to the Victoria Falls of the Zambesi, by W. L. Sclater, M.A., F.Z.S.—Amongst interesting species which were noticed may be mentioned *Larus cirrhocephalus* (Grey-headed Gull) and *Rhinoptilus seebohmi* (Seebohm's Courser), whilst specimens of *Gyps rueppelli* (Rüppell's Vulture) and *Necrosyrtes pileatus* (Hooded Vulture) were procured.

A list of all the species observed and collected is also given.

(11) THE April number (1905) of 'The Ibis' contains the following articles to which attention may be drawn:—

1. Notes on a small Collection of Birds from Algeria, by Harry F. Witherby, M.B.O.U.
 2. A paper on the Birds collected by the late Mr. W. G. Doggett on the Anglo-German Frontier of Uganda, by W. R. Ogilvie-Grant, F.Z.S., M.B.O.U.
 3. The Birds of the South-eastern Part of the Protectorate of Sierra Leone, by Robin Kemp; with notes by Dr. Bowdler Sharpe, and one plate.
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Microgallus

Microgallus

PROCEEDINGS OF THE UNION.

REPORT OF SECOND ANNUAL MEETING.

THE Second Annual General Meeting of the Union was held in the Transvaal Technical Institute, Johannesburg, on the 30th August, 1905.

The presence in South Africa of the Members of the British Association lent a general interest to the proceedings, which cannot fail to be beneficial in promoting the advancement of the objects of the Union. There were present, amongst others, the President of the Union, Mr. W. L. SCLATER, M.A., F.Z.S., M.B.O.U. (Director of the South African Museum, Cape Town), who occupied the Chair, Dr. S. Schönland, Hon. M.A. (Oxon.), F.L.S., C.M.Z.S. (Director of the Albany Museum, Grahamstown, Cape Colony, and a Vice-President of the Union), Messrs. H. A. Fry, E. H. U. Draper, E. M. Skea, L. T. Griffin, L. E. Taylor, F.Z.S., M.B.O.U., C. B. Simpson, W. J. Powell, and A. K. Haagner, F.Z.S., M.B.O.U. (Hon. Sec.).

Amongst the distinguished visitors were Dr. P. L. Selater, F.R.S. (Joint Editor of 'The Ibis'), Mr. A. H. Evans, M.A., F.Z.S. (Joint Editor of 'The Ibis'), and Mr. A. B. R. Trevor-Battye, F.Z.S.

The minutes of the First Annual General Meeting held on the 24th September, 1904, and of the Special General Meeting held on the 5th November, 1904, were read and confirmed.

The Hon. Secretary and Treasurer (Mr. A. K. HAAGNER) read the Annual Report of the Union and presented a statement of accounts, both of which were adopted and passed on the motion of Dr. SCHÖNLAND.

The following gentlemen having been duly proposed and seconded for Membership of the Union, were forthwith elected on the motion of Mr. L. E. TAYLOR seconded by Dr. SCHÖNLAND :—

- Mr. W. H. WORKMAN, M.B.O.U.; Lismore, Windsor, Belfast, Ireland.
- Dr. J. WIGLESWORTH, M.D., F.R.C.P., M.B.O.U.; Rainhill, near Liverpool, England.
- Dr. MARTINIUS; Orange River Colony.
- Capt. R. HALL; South African Constabulary, Orange River Colony.
- Capt. B. R. HORSBRUGH, M.B.O.U.; Army Service Corps, Naval Hill, Bloemfontein, Orange River Colony.
- Dr. WALTER FRANCIS INNES BEY, M.B.O.U.; Curator of the Zoological Museum, School of Medicine, Cairo, Egypt.
- Mr. HARRY C. OBERHOLSER; Biological Survey, Department of Agriculture, Washington, U.S.A.
- Mr. E. H. DRAPER; Transvaal.
- Mr. H. LAWRENCE LAKE; Transvaal.
- Mr. H. O. COLLETT; Transvaal.
- Mr. J. P. MURRAY; Basutoland, South Africa.
- Mr. ROBERT H. IVY; Cape Colony.
- Mr. J. G. McCUSKER; Transvaal.
- Mr. M. M. LOUBSER; Cape Colony.
- Dr. J. B. GREATHEAD; Cape Colony.
- Mr. I. AYRES; Transvaal.
- Mr. J. B. POLE EVANS, M.A. (Cantab.); Transvaal
- Mr. C. P. SIMPSON; Transvaal.
- Col. C. L. ANDERSSON; Transvaal.
- Mr. C. W. HOWARD; Transvaal.
- Professor J. E. DUERDEN; Cape Colony.

The officers of the Union for 1906 were elected as follows:—

President . . . W. L. SCLATER, M.A., F.Z.S., M.B.O.U.
(Director of the South African Museum, Cape Town).

Vice-Presidents . . . { Dr. J. W. B. GUNNING, F.Z.S. (Director of the Transvaal Museum and Zoological Gardens).
Professor J. E. DUERDEN (Professor of Zoology, Rhodes University College, and Curator, Zoological Division, Albany Museum, Grahamstown, Cape Colony).

Hon. Treasurer . . . A. K. HAAGNER, F.Z.S., M.B.O.U.

Hon. Secretary . . . A. K. HAAGNER, F.Z.S., M.B.O.U.

Members of Council { JOHN WOOD (Cape Colony).
L. E. TAYLOR, F.Z.S., M.B.O.U. (Transvaal).
J. G. HATCHARD, F.R.A.S. (Orange River
Colony).
A. D. MILLAR, Col.M.B.O.U. (Natal).
G. A. K. MARSHALL, F.Z.S., F.E.S. (Rhodesia).

Votes of thanks were passed by the Meeting to the Editors of the Journal and to the Hon. Secretary.

Dr. P. L. SCLATER (for many years Secretary to the Zoological Society of London and Joint Editor of 'The Ibis') then addressed the Meeting. He said that as a foundation member of the British Ornithologists' Union it gave him very great pleasure to attend the 2nd Annual Meeting of the South African Ornithologists' Union. The Members of the Association could congratulate themselves on the success which had been attained by them during the first two years of its life. The British Ornithologists' Union commenced with a membership of only about 20 in its first year, whereas the South African Ornithologists' Union already contained in its ranks between 70 and 80 Members in its second year of existence. Dr. Selater laid great stress on the importance and educational value of Museums, and expressed the opinion that every chief centre of population should have a properly equipped institution containing representative collections of the local fauna, especially of birds. He concluded by wishing the Union long life, prosperity, and continued success in the future.

Mr. HAROLD FRY (Hon. Secretary to the Johannesburg Field Naturalists' Club) proposed a vote of thanks to Dr. Selater for his address. He said that it was a great honour and pleasure for the Union to have Dr. Selater amongst them and to hear his remarks. He (Mr. Fry), being South African born himself, might probably never have the chance of visiting England, and he and many others looked upon this visit of the British Association as the event

of a lifetime, and enjoyed it quite as much as the Members of that Association themselves. They had a magnificent opportunity of meeting and making the acquaintance of many illustrious men whose books they had read and whose names were so familiar. The vote of thanks was seconded by Mr. HAAGNER, and passed with loud applause.

A vote of thanks to the Chairman concluded the proceedings.

THE JOURNAL
OF THE
SOUTH AFRICAN ORNITHOLOGISTS' UNION.

Vol. II.

JUNE 1906.

No. 1.

IX.—*Remarks upon some hitherto undescribed or unfigured Eggs of certain South African Passerine Birds.* By JOHN A. BUCKNILL, M.A., F.Z.S., and G. H. GRÖNVOLD. With Field-notes by the Collectors.

(Coloured Plate : Frontispiece.)

Fig. 1.

COLIOPASSER ARDENS. (Red-collared Widow Bird.)

The egg figured is one of a clutch of three taken at Witpoortje near Johannesburg on the 4th December, 1904, by Mr. F. J. Ellemor. A photograph and description of the nest by Mr. Ellemor appears in this Journal, vol. i. no. 1, p. 18, and pl. iii.

The eggs were first described by the Messrs. Woodward as being "little white speckled eggs." Major Sparrow took several clutches in Natal (*vide* this Journal, vol. i. no. 1, p. 10), three of which are in the Pretoria Museum; these three clutches, each of three eggs, show little variation from each other or *inter se* or from Mr. Ellemor's clutch. There is another single egg in the Pretoria Museum labelled as of this species, which is stated to have come from Pietermaritzburg, but is of a different type and marking, and belongs I think, without doubt, to *C. procne* (Great-tailed Widow Bird). In the almost exact similarity of the twelve eggs of this

species which I have examined, it was considered unnecessary to figure more than one. [J. A. B.]

They are of a bluish-green ground-colour, with large and small rather dark brownish-grey spots, with underlying blotches and very fine spots of light smoky-grey evenly distributed over the entire surface. They are of an ovate or slightly elongated ovate form, and measure from 18.5×13.0 to 19.2×13.4 mm. [G. H. G.]

Fig. 2.

PYTELIA MELBA. (Southern Red-faced Weaver Finch.)

The egg from which the figure is taken was laid in confinement in the aviary of Mr. A. Duncan, of Johannesburg. Mr. Duncan writes: "I had a pair of these birds in my aviary, which is a very large one. I watched them building the nest, which was situated about three feet from the ground on a tree: it was domed, with a small opening in the side, and was rather a rough structure of grass lined with feathers and cowhair with which the birds were supplied. When I first closely examined the nest it contained three eggs: after this I watched it daily and always found the hen sitting; after about a week I noticed the birds had deserted the nest, which I found on examination to contain only one egg."

The egg has been described by Jackson ('Ibis,' 1899, p. 606) as being pure white; taken near Kibwezi, British East Africa. [J. A. B.]

The egg is of a uniform creamy-white colour and slightly glossed. It is of an elliptical-oval shape, the larger end being slightly attenuated. It measures 18.0×12.0 mm.

[G. H. G.]

Fig. 3.

COLIOPASSER ALBONOTATUS. (White-winged Widow Bird.)

The egg figured is one of a clutch of three taken by Mr. A. Duncan, of Johannesburg. Mr. Duncan writes: "This nest I found at Pienaar's River, about 40 miles north of Pretoria. It was situated in long grass close to the stream, and was attached to several stems about a foot from the ground; it is a very open structure of grass lined with a few grass heads;

kidney-shaped, with an entrance near the top. I spent a considerable time in trying to catch the female with limed twigs at the entrance of the nest, but was only rewarded with a few feathers, as she got off the lime before I could get hold of her: I caught the cock, however, which is now in my aviary. I took a photo of the nest, which I enclose."

Capt. Shelley (*Birds of Africa*, vol. iv. p. 48) states that Mr. Nehr Korn describes the egg as of a deep blue with dull red and violet spots clustered towards the thick end, and measuring 0.8×0.58 mm. Capt. Shelley kindly informs me that the egg has also been described by Kuschel (*Journ. f. Orn.* 1895, p. 338, and quoted by Reichenow, *Vög. Afr.* vol. iii. p. 140, 1904). [J. A. B.]

The three eggs vary a little *inter se*, but somewhat resemble those of *C. ardens*. The ground-colour is bluish-green with underlying lavender-grey blotches of varying size and brownish surface-spots and lines both large and small. In two of the eggs these markings are smaller and evenly distributed over the whole surface; in one of these two the markings are so thick as to tend to cover the ground-colour. In the third egg the markings are rather larger and form a more or less well-defined zone round the larger end, showing more of the ground-colour all over. They are of the same shape as those of *C. ardens*, and measure 18.0×13.0 , 17.5×13.0 , and 18.0×12.2 mm. [G. H. G.]

Figs. 4 and 5.

EREMOMELA FLAVIVENTRIS. (Yellow-bellied Bush-Warbler.)

The two eggs figured are from a clutch of three taken by Mr. Austin Roberts at Potchefstroom, Transvaal, in November 1904. Mr. Roberts writes: "The nest was fixed to a branch of a small thorn-bush about three feet from the ground and well concealed by foliage. The bush formed part of a thick patch of thorn-scrub close to the railway-line on the Government experimental farm at Potchefstroom."

So far as can be ascertained, the eggs of this species have never hitherto been described. [J. A. B.]

Two of the three eggs are almost identical, but the third slightly differs. The ground-colour is pure white and slightly glossy, with medium-sized spots and minute specks of blackish brown and smoky grey forming an interrupted zone round the larger end; a few of these spots are scattered over the smaller end of the shell. Two are ovate in shape, but the third is a little more elongated. They measure 15.0×11.5 to 15.8×11.0 mm. [G. H. G.]

Fig. 6.

THAMNOLÆA CINNAMOMEIVENTRIS. (White-shouldered Bush-Chat.)

The egg figured was one of a clutch of three taken by Mr. A. Duncan of Johannesburg. The three eggs were so much alike that it was not thought necessary to figure more than one of the clutch. The discovery has already been shortly noticed in this Journal (*q. v.* vol. i. no. 1, p. 35). Mr. Duncan now writes: "I found these eggs on October 26th, 1902, in the range of hills beyond Orange Grove, about four miles from Johannesburg. The birds had nested in an old Swallow's nest on the face of a rock about ten feet from the ground. The nest was formed of small twigs lined with hair, small roots, and some pieces of twine, and was held together with spiders' webs. I also found another nest a week afterwards, also situated in an old Swallow's nest placed in a prospecting tunnel about ten yards from the entrance; this nest contained three fully-fledged young—two male and one female. I mention the sexes as the young males had the white patch on the wings as in the adult male, and the female corresponded with the adult female."

Mr. Duncan's account agrees with that of Major Sparrow, who took some six nests in Natal, as described in this Journal, vol. i. no. 1, p. 14. So far as can be ascertained no other precise descriptions of the nidification or eggs of this species have been published.

The three eggs of the White-shouldered Bush-Chat do not vary very much *inter se*. They are of a bluish-white ground-colour, very slightly glossed, and have small blotches and minute spots of lavender-grey and buffish brick-colour,

forming a broad, fairly well-defined zone round the larger end, the spots from the zone flowing towards both poles. On one of the eggs these markings are finer, on the others they are slightly larger and a little more pronounced. The shape is ovate, and they measure 26.0×19.0 and 27.0×19.0 mm. [G. H. G.]

Figs. 7-16.

HYPHANTORNIS MARIQUENSIS (Smith). (Masked Weaver Bird.)

Shelley, *Birds of Africa*, vol. iv. pp. 399, 405.

Hyphantornis velatus, Stark & Sclater, *Fauna of S. Africa*, *Birds*, vol. i. p. 58.

The eggs figured are from a very fine set of clutches taken by Mr. Duncan, of Johannesburg.

The intergradation of plumage between some of the members of this group is very noticeable, and the determination of the more or less accepted species somewhat puzzling.

The late Dr. Stark gave a "Key" (*Fauna S. Afr.*, *Birds*, vol. i. pp. 55 & 56), which Mr. W. L. Sclater does not now consider satisfactory, and for which he proposes to substitute another (*vide Ann. S. Afr. Museum*, vol. iii. pt. viii. no. 9, p. 367). It will perhaps be useful to give both *in extenso* (*vide p. 6*).

Sclater (*Faun. S. Afr.*, *Birds*, vol. i. p. 59) writes: "Specimens (of *H. velatus*) from northern localities are smaller and brighter than those from further south. They have been separated and called *H. mariquensis*; but there is a regular gradation in size and colour from south to north and *vice versa*."

Capt. Shelley separates *H. velatus* into two subspecies. In identifying a cock bird shot by Mr. Duncan off one of the nests, from which the eggs figured were taken, he writes to me under date 5th Jan., 1906:—"The bird sent me is *H. mariquensis* (Smith) in full male plumage, well figured, 'Ibis,' 1868, pl. x. Both Stark and Reichenow unite it to *Ploceus velatus* (Vieill.), the Namaqua form, which ranges from Western Cape Colony into Benguela, while your bird

Males in breeding-plumage.

Stark's Key.

- a.* With the throat black.
*a*¹. Entire head and face black *H. nigriceps*.
*b*¹. Forehead only black, crown yellow.
*a*². A line of chestnut between the black forehead and yellow crown *H. cabanisi*.
*b*². No line separating the black forehead from the yellow crown *H. velatus*.
*c*¹. Forehead not black.
*c*². Back black, mottled with yellow *H. spilonotus*.
*d*². Back olive-yellow, striped with black .. *H. shelleyi*.
b. Throat not black.
*d*¹. Entire head yellow *H. subaureus*.
*e*¹. Forehead only yellow, rest of head and face greenish yellow *H. jamesoni*.

Slater's Key.

- A.* Throat black.
a. Back mottled black and yellow.
*a*¹. Head black all round, bordered by a narrow yellow collar round the neck *H. nigriceps*.
*b*¹. Head yellow, no black on the crown *H. spilonotus*.
b. Back greenish yellow, sometimes with traces of darker centres to the feathers.
*a*¹. Fore part of the crown to behind the level of the eye black, occiput and nape yellow *H. cabanisi*.
*b*¹. Only a narrow band of black across the forehead, sometimes interrupted in the middle; crown golden-yellow.
*a*². Larger, wing 3.0 to 3.25 *H. velatus*.
*b*². Smaller, wing 2.5 to 3.0 *H. auricapillus*
 = *H. shelleyi*.
B. Throat not black.
a. Smaller, wing 3.35; entire head yellow *H. subaureus*.
b. Larger, wing 3.75; only the forehead yellow, rest of the head and face greenish yellow.. *H. jamesoni*.

Capt. Shelley gives a still more elaborate Key (Birds of Africa, vol. iv. p. 399).

belongs to the commoner subspecies which ranges from Cape Town to the Limpopo. See my 'Birds of Africa,' iv. pp. 399, 405, 406."

In this reference it will be seen that Capt. Shelley states (*ib.* p. 406):—" *H. mariquensis*: Male in full plumage. Differs very slightly from *H. velatus*. Rather larger: bill stouter; tarsi longer and, like the feet, larger; upper parts slightly darker, mantle greener; rump more golden-yellow, with a slight olive wash."

It will not be out of place to refer to here the species *H. auricapillus*, of which mention is made in Selater's Key referred to above.

This species is the same as *H. shelleyi* (Shelley's Weaver Bird) [Selater, Fauna S. Afr., Birds, vol. i. p. 62] and *H. tahatali* (Shelley, B. of Afr. iv. p. 408). Selater (Ann. S. Afr. Mus. vol. iii. pt. viii. no. 9, p. 367), in referring to the change of name, says:—"Reichenow (Vög. Afr. iii. p. 79) adopts the older name '*auricapillus*' of Swainson for this species. It is merely a smaller and brighter-coloured form of *H. velatus*. Males in the non-breeding season appear to have a strong tinge of pinkish below, judging from examples sent to the S. African Museum by Dr. Stoehr."

Capt. Shelley writing to me says:—" *Ploceus auricapillus* (Swains. 1838) = *Ploceus tahatali* (Smith). Smith described it from a nesting female. It is a smaller bird and the full-plumaged males (*H. shelleyi*, Sharpe) are much brighter than *H. mariquensis*, which they meet in the Transvaal."

I have myself felt so much difficulty in the correct identification of members of this group that I have ventured to refer to them at considerable length: it is hoped that with the assistance of the Keys and the above remarks it will be tolerably easy to separate typical specimens of *H. cabanisi*, *mariquensis*, *velatus*, *subaureus*, and *auricapillus*, and to notice any specimens which appear to link up any of the forms. The writer would be greatly obliged if any of the doubtful specimens would be forwarded to him for further identification.

With regard to the eggs figured (which were at first thought to belong to *H. cabanisi*), it will be seen from the

identification of Capt. Shelley that they are those of *H. mariquensis*. Mr. Duncan writes:—"The eggs sent were collected by me at Pienaar's River and were all taken from one tree which held about two hundred nests. The nests were identical with those of *H. velatus*, with the exception of their being—to my mind—rather smaller. The male bird enclosed was shot hanging on a nest, and seemed to me to be a small specimen of *H. velatus*, but, on exhibiting it at a meeting of the Johannesburg Field Naturalists' Club, it was considered by the members to be *H. cabanisi*." It need only be added that the eggs of this bird (*i. e.* the form of *H. velatus* found in the Transvaal amongst other places, and separated by Shelley as *H. mariquensis*) have been often described before.

[J. A. B.]

The nine clutches of eggs of *H. mariquensis* offer a striking instance of the variation of the eggs of a single species.

The normal number of eggs in a clutch seems to be three. They divide into four groups:—

- 1st. Pure white.
- 2nd. Pure bluish-green.
- 3rd. With the ground-colour bluish-green, with red-brown and lavender-grey spots.
- 4th. With the ground-colour creamy or whitish-buff, with dark, light brown, reddish-brown, and lavender spots.

In the 1st section the three white eggs have a very slight shade of cream-colour and are slightly glossed.

In the 2nd the three bluish-green eggs are also slightly glossed and do not vary much in tint; they resemble in colour light specimens of the British Hedge Sparrow (*Accentor modularis*).

In the 3rd the three clutches of three eggs have the ground-colour bluish-green, much the same as in No. 2: the clutches do not vary very much in colour or markings; in some the dark brown spots and blotches are spread over the entire shell, in others less scattered, while in one example

they are more or less concentrated round the larger end of the shell so as to form an open zone. The underlying lavender blotches and spots and the dark brown and umber-coloured spots and minute specks, even in the densest-spotted egg, leave the ground-colour quite prominent, whilst in the other type the surface is but sparsely spotted. Only in one of the eggs do the markings form an open zone; in all the remaining eggs the spots are evenly distributed over the entire surface of the shell.

4th section.—Four clutches: two of three eggs and two of two. They vary to some extent *inter se*, whereas the eggs in each clutch do not vary very much. The ground-colour in the first three eggs is almost white, with large and small spots of pinkish-brown and lavender-grey; on one of the eggs are some tiny dark brown spots; all the spots are generally distributed on the surface and leave the ground-colour quite prominent. In one clutch of two eggs the ground-colour is creamy and the pinkish-brown and lavender spots evenly distributed over the shell tend to hide the ground-colour, the markings being larger in the one specimen and smaller in the other, with an indication of a cap. A third clutch, two eggs, has the ground-colour creamy with larger underlying lavender spots and blotches, large and small roundish spots of dark reddish-brown, the edges of most of these latter spots confluent and reddish, but leaving the ground-colour quite prominent. The fourth set, three eggs, has the ground-colour creamy, with underlying small lavender blotches and large reddish spots and blotches of good size, roundish dark brown spots about the size of a pin's head; though these larger markings combined with minute specks are boldly distributed over the entire surface, the ground-colour is still dominant. All four sets are slightly glossed.

The shape of these eggs does not vary very much, being of an ovate or elliptical-ovate form. In some of the specimens the smaller end is rather pointed, and one of the white eggs is approximately a short "fusiform." In size the eggs in the individual clutches are very uniform. Some measurements are:

	mm.	mm.	
Fig. 7.	19·5	× 14·1	} White eggs.
„ 8.	22·0	× 14·7	
„ 9.	22·0	× 14·0.	
„ 10.	21·5	× 14·2.	Creamy : confluent dark spots.
„ 11.	21·0	× 14·5.	
„ 12.	21·0	× 15·0.	Creamy : profusely spotted.
„ 13.	22·5	× 15·0.	Blue : spotted.
„ 14.	20·5	× 13·0.	Blue : spotted.
„ 15.	21·0	× 14·5.	Blue.
Unfig.	20·5	× 13·0.	Creamy ; small spots.

Maximum length of all 22·5 mm.

Minimum „ „ 19·5 „

Maximum breadth „ 15·0 „

Minimum „ „ 13·0 „

[G. H. G.]

X.—*Ornithological Notes from Wolmaransstad, Transvaal.*

By AUSTIN ROBERTS.

1. PASSER DIFFUSUS. (Southern Grey-headed Sparrow.)

These Sparrows are plentiful here, but often overlooked on account of their resemblance to the hen of *Passer arcuatus* (Cape Sparrow). During November last, on the Vaal River, near Venterskroon, I took several clutches of their eggs from old nests of the Pied Barbet (*Tricholema leucomelas*). These nests had been warmly lined with soft feathers, and the clutches consisted of from two to five eggs.

2. AMADINA ERYTHROCEPHALA. (Red-headed Weaver Finch.)

During the months of March and April all the old Sparrows' nests in the neighbourhood of the village were taken up by these Finches for the purpose of incubation. I have not, so far, met with a nest constructed throughout by these birds themselves ; but have observed a large number of old Sparrows' and Weavers' (*Hyphantornis velatus*) nests which

were being used, after having been relined with feathers. The clutch consists of four white eggs, about the size and shape of those of *Hirundo cucullata* (Larger Stripe-breasted Swallow).

3. SPOROPIPES SQUAMIFRONS. (Scaly-feathered Weaver Bird.)

These Finches are common amongst the thorn scrub, where their nests are conspicuously placed in a thorn bush about six feet from the ground. A nest discovered on the 10th June contained four fresh eggs. This nest was of the usual Waxbill type, being made of grass-stems, those on the outside converging to a point over the entrance, which is thus quite closed up.

4. SERINUS ANGOLENSIS. (Black-throated Seed-eater.)

This bird is rare here. At Potchefstroom it nests during the months of December and January. One nest discovered there on the 16th January, 1903, is worth describing. It was placed in the hollow at the top of a cone of the "sugar-bush," about seven feet from the ground, and was so cleverly constructed that detection was almost impossible. The nest was made of soft brown fibres, obtained from the dry flower in the centre of sugar-bush cones, bound together with cobwebs, the edges being nicely rounded off level with the protruding sides of the cone. It measured about an inch deep by an inch and a half across. The clutch consists of from three to five eggs, which are white without spots.

5. RHINOPTILUS AFRICANUS. (Two-banded Courser.)

These "Plover" are abundant in this neighbourhood; but always shy. They lay their solitary egg during the latter part of July or beginning of August. The only indication of a nest is a small accumulation of pebbles, which would hardly be noticed by the casual observer.

6. CURSORIUS RUFUS. (Burchell's Courser.)

The eggs of this species may easily be distinguished from those of the preceding by the darker-coloured markings and

rounder shape; there are also, as a rule, two eggs to the clutch.

7. *ÆGIALITIS VARIA*. (Kittlitz's Sand Plover.)

These Plover are fairly common here on bare patches of veld near water. At Potchefstroom they are also fairly common, and in certain favourite localities, during August and September, their eggs could nearly always be found by watching for them to get up off their nests. On one occasion I witnessed a pretty little comedy which is worth relating. Whilst cycling along an old road, one of these Plover stood up over her eggs right in the track of the bicycle, and with her mouth open and waving wings bravely tried to scare me away. I rode up opposite the nest and, dismounting, stood over it not more than two feet away; but she still would not budge from her post. I wished I had had the powers of an artist so as to have painted the pretty little picture which she presented as she stood there wavering between fear and her firm resolve to defend her eggs. Finally, finding she could not drive me away, she vainly tried to distract my attention from the nest and to lead me off by suddenly collapsing and fluttering away, screaming as though severely wounded; she was shortly afterwards joined by her anxious mate. The nest was a hollow in a sand-heap, and the two eggs would in the ordinary course have been covered over with sand before being left.

8. *AQUILA RAPAX*. (Tawny Eagle.)

A pair of these Eagles were nearly always to be seen in the neighbourhood of a patch of thorn scrub, about $2\frac{1}{2}$ miles to the west of Wolmaransstad. They usually perched on trees, from which they could watch every movement in the surrounding veld. During April they started to construct a nest on the top of a "kameel doorn," about fifteen feet from the ground. The nest was completed and two eggs were laid about the end of May. One of these eggs is white, slightly discoloured, without spots, measuring 2·80 by 2·15 inches, and the other pure white, spotted with rusty red, measuring 2·75 by 2·2 inches.

The nest was made by laying a foundation of sticks across the highest and firmest part of the tree with coarse grass thrown over them. On the top of this again finer grass and dry husks of bulbs were thickly strewn, and in the centre a depression was formed for the eggs. The whole nest measured about 2 feet 6 inches across, and was surrounded by feathers from the parent birds.

On visiting the place again on the 30th July, I found that they had relined the previous year's nest situated on a neighbouring tree and had laid two more eggs. The old birds were nowhere to be seen, so the eggs were left untouched. Again visiting the nest six days later, the eggs were more closely examined, as the old birds were not about, and found to be slightly addled.

9. *ELANUS CÆRULEUS*. (Black-shouldered Kite.)

I was very much surprised on the 28th May to find two fresh eggs of this bird, as I had found a nest just six months previous at Potchefstroom, containing four eggs much incubated. Apparently they lay twice a year.

10. *OTOGYPS AURICULARIS*. (Black Vulture.)

A pair of these Vultures built their nest this year on the top of a tall straight-stemmed mimosa thorn situated on the outskirts of a belt of thorn trees miles away from any farmhouses. The tree was matted with thorns nearly the whole way up, and very difficult to scale on that account; it had been used before, as part of an old nest was sticking halfway up. The nest was large, measuring about four feet across at least, and was lined with grass, the edges being protected by twigs of the wild asparagus. A fresh egg was taken on the 17th June.

11. *PSEUDOGYPS AFRICANUS*. (African White-backed Vulture.)

The nest of this species is distinctly different from that of *O. auricularis*. A nest also discovered on the 17th June was built on the top of a tall scraggling "kameel doorn," about 30 feet from the ground. It was composed of grass throughout, and only measured about twenty inches across. The egg

taken from this nest is white, thickly marked with blood-coloured spots, principally round the thinner end, and measures 3.70 by 2.75 inches.

12. PETROCHELIDON SPILODERA. (South African Cliff Swallow.)

These Swallows last year had a colony of nests under the eaves of the Dutch Reformed Church. After migrating for the winter they returned last night, and their cheerful twittering broke the dawn this morning (August 27th, 1905) for the first time.

XI.—*The Migration of Birds in South Africa.* (A Paper read before Section D of the British Association during its Meeting in Johannesburg in 1905.) By W. L. SCLATER, M.A., F.Z.S., Director of the South African Museum, Cape Town.

THE subject on which I propose to address you has attracted, especially of late years, a very large amount of attention in Europe and North America, and not only have very large numbers of observations on the subject been made and recorded, but these have formed the basis for several general theories of migration, which, if they are correct, should hold good for the Southern Hemisphere as well as the Northern.

The study of the migration of birds has, so far as South Africa is concerned, been hitherto almost entirely neglected, and until we have more observations on the times of the arrival and departure of our migrants, and as to their presence and absence in different months of the year, it is impossible to give any very reasonable account of the matter. In the present paper I propose to direct your attention to what is at present known with any certainty, and to point out to you the lines on which a further advance may be made through the co-operation of simultaneous observations over a wide area.

One of the greatest difficulties in regard to observation is the lack of knowledge amongst most people in South Africa

of even the names of the commoner birds which they see every day around them. This, I fear, it will take many years to remedy, but doubtless it will come with increase of population and civilization, and also if the study of Natural History be taken up in the South African schools to a greater extent than it has hitherto been.

For the purpose of this paper I have taken the list of birds contained in the recently published three volumes of the 'Fauna of South Africa,' written by the late Dr. Stark and myself, together with those in the fourth volume shortly to be issued.

The number of species described in the four volumes is 814, which includes all those hitherto found in Africa south of the Zambesi and in the neighbouring seas. I have divided them into five categories as follows:—Residents numbering 731, Northern Migrants numbering 76, African Migrants numbering 21, Partial Migrants numbering 50, and Island Breeders numbering 36; these groups I now propose to shortly discuss in turn.

Of the Residents it is not necessary to say very much; it is highly probable that a large proportion of these when carefully observed will be found to fall under the heading of Partial Migrants. Even in England many birds, such as the Robin and the Skylark, formerly supposed to be residents, have been found of late to be largely migratory. Under this category, too, have been placed a number of rare birds and wanderers which have been noticed in South Africa on only two or three occasions, and about the movements and habits of which we are at present entirely ignorant.

The most interesting of the migratory birds in South Africa are without doubt those included under the heading of the Northern Migrants, which number 76. These are, most of them, familiar European and English birds, which make a double journey of over 4000 miles every year from the Northern Hemisphere to the Southern. The bulk of them reach South Africa in October and leave again in March and April. The Golden Oriole, four Yellow Wag-tails, the Red-backed Shrike, the Willow Wren, the Spotted

Flycatcher, the English Swallow, the Egyptian Kite, three Harriers, the White Stork, four Sand Plovers, and a number of Sandpipers and other Waders are the best known and the most common of this group of birds. The English Swallow first arrives at the neighbourhood of Cape Town at the end of October, and becomes common in November; it remains here till March, and has entirely disappeared by the middle of April. In North Africa Swallows arrive very early during the latter half of February; in South Europe during the first half of March, and in Central Europe not until the last half of March; while in England the immigration is at its height in the middle of April.

A thesis, maintained by Seebohm in this connection, is that the individuals of a species which go furthest south in winter go furthest north in summer to breed; and the fact that the Swallows do not leave South Africa till the beginning of April seems to lend some support to this view, as those which reach North Africa in February and March from the south cannot be the same individuals that leave South Africa a month later.

As is, no doubt, well known to you, all Swallows have only one moult in the year just before returning northwards from their winter quarters, so that during the greater part of their stay in South Africa they are in exceedingly worn plumage, until just before leaving for the north again.

But it is among the Shore-Birds and Waders that the greatest number of northern migrants are found. During the African summer every vlei and every river-bank swarms with Ruffs, Sandpipers, and Plovers, most of which moult into non-breeding plumage on their arrival, and again often into breeding dress before their departure; and among the specimens in the South African Museum there are a good many collected, either early in October or late in February or March, showing either full or partial breeding plumage either just before the non-breeding plumage is assumed or just after the second moult is again taking place.

All these Northern Migrants reach South Africa in the spring-time of the Southern Hemisphere, when the resident

birds are commencing breeding operations; and while there can be no doubt that the great majority of these birds, especially among the Waders, make no attempt to breed, there is undoubted evidence that some few do so.

Perhaps the best instance of this is the European Bee-eater (*Merops apiaster*). This bird, often called the Berg-Zwalauw by the Dutch, is found throughout Southern Europe and Central Asia from Spain to Kashmir and the Altai Mountains during the northern summer months. In Spain, where it is well-known and abundant, it remains from April till August, breeding freely in May. During the northern winter the Bee-eater comes south to Africa, apparently passing over Northern and Central Africa on migration, and spending the months from October to March in South Africa.

The first notice of the breeding of this bird in South Africa is that of Mr. Layard's correspondent, Mr. Henry Jackson, who observed it so doing on his farm near Nelspoort in the Beaufort West division. Mr. Layard himself also found it nesting on the Berg River in the Malmesbury division, and there is now exhibited in the South African Museum a model of a nest with the eggs and parent bird, obtained by Mr. Griffin, then the Museum taxidermist, taken on Mr. Kotze's farm on the Berg River on November 11th; on another occasion my friend Mr. W. G. Fairbridge took an egg on October 27th, 1901, on the Cape Flats about twelve miles from Cape Town, where I myself also saw the birds nesting in a hole in the bank of a ditch.

The evidence for the breeding of the Bee-eater, both in its northern summer home and in its southern winter home, is therefore indisputable.

The question as to whether the same individual birds breed twice in a year, once in the north in May and once in the south in October, is, of course, another question, and one which it would be very difficult to settle definitely. A possible hypothesis is that there are two races of Bee-eaters—the northern race breeding in South Europe from May to August, and wintering in Central Africa from September to

April; and a southern race breeding in South Africa from October to March, and wintering in Central Africa from April to September; but, so far, no one has succeeded in pointing out any distinction in plumage between the two supposed races, Bee-eaters from Spain and from South Africa appearing to be absolutely identical.

The case of the Bee-eater is certainly the best authenticated, but there are several other northern migrants which appear to breed with us: the Blue-cheeked Bee-eater (*Merops persicus*), breeding in South-west Asia, was found nesting by Kirk on the Zambesi, and by Ayres on the Vaal; Mr. Ivy, of Grahamstown, took a nestling Great Spotted Cuckoo (*Coccyzus glandarius*) from the nest of a Red-winged Starling near Grahamstown in December, and kept it alive till April. This bird is a northern breeder, found commonly in Spain, where it frequently deposits its eggs in the nest of a Magpie. The English Cornerake is a common bird between the months of December and March in the Transvaal and Natal, though rarer in Cape Colony. Mr. Fitzsimmons, of the Maritzburg Museum, has sent me an egg which he believes to be that of this bird, and of which a good many specimens have been brought to him. It agrees very well with the European eggs of the same species, and I know no reason to doubt its authenticity. Mr. G. A. K. Marshall informs me that the European Roller, another northern migrant, nests in Mashonaland, while there are several species, such, for instance, as the Curlew and Whimbrel, which can be met with occasionally all the year round in South Africa, but which are not yet known to breed within our limits.

The second group of migratory birds which I have distinguished under the name of African Migrants number twenty-one. These birds arrive in South Africa with the northern migrants in October, and after spending the summer with us leave again in March, but, whilst here, they nest in the usual way; so far as we know, these birds winter in Tropical and Central Africa, but observations on this point are wanted in many cases.

A good example of this class of birds is the Larger Stripe-

breasted Swallow (*Hirundo cucullata*). It arrives in the South and West of Cape Colony about the beginning of September, and is an exceedingly common bird everywhere. At the end of March or the beginning of April it disappears northwards, and the most remarkable fact is that its winter-quarters are quite unknown; hitherto it has never been met with between the months of May and August either in South Africa or elsewhere.

It is among the Cuckoos, however, that the greatest number of these African migrants are found. Out of twenty South African species nine are included in this category. The South African Cuckoo (*Cuculus gularis*) is rare in Cape Colony, but not uncommon in the Transvaal, Bechuanaland, and Rhodesia in the summer months from October to March. In the cold weather it appears to be found all over Tropical Africa north of the Zambesi, where it has been met with by many observers, as at Witu in British East Africa in May by Jackson, and at Lado on the Upper Nile in April by Emin Pasha. This is also the case with the Red-chested Cuckoo (*Cuculus solitarius*), common in the neighbourhood of Cape Town, the Black Cuckoo (*C. clamosus*), the three Green Cuckoos (*Chrysococcyx*), and the Black-and-White Cuckoo (*Coccyzus jacobinus*).

Under the heading of Partial Migrants I have included a number of birds which, although subject to migratory movements of various kinds, appear to be found at all times of the year in South Africa in fair numbers. The movements of some of these birds depend on special circumstances, such as the presence or absence of some particular kind of food, and in others are probably due to climatic causes. For instance, Andersson notes that in the case of many birds they are only to be found in Damaraland during the rainy season, though in other parts of South Africa they are residents.

One cause of partial migration is due to the movement of the swarms of locusts found in so many parts of Africa. Three species of birds are especially associated with such swarms: the Wattled Starling (*Creatophora carunculata*), Nordmann's Pratincole (*Glareola melanoptera*), and, when

here, the White Stork (*Ciconia alba*); of these the first-named is a resident with us, and, where conditions are favourable, breeds in great numbers in certain localities. The other two, the Pratincole and the Stork, are both Northern Migrants, only remaining in South Africa during the southern summer months, and not, so far as we yet know, breeding. Another bird of irregular migratory habits is the Cape Quail (*Coturnix africana*). This bird is to be found at all times of the year in most parts of South Africa where suitable conditions exist; but at certain periods of the year, varying considerably in different parts of South Africa, the Quail "come in"; in most places the migrating flocks remain about six weeks and then again disappear.

Finally, I have placed in a class by themselves a number of Sea-birds (thirty-six in all), which are found about our coasts most abundantly during our winter months, March and October, and which migrate away to distant Oceanic Islands, such as Kerguelen, the Crozets, and Tristan group, during the summer months to breed. Among these are found all our representatives of the Order Tubinares (twenty-nine in number), including the Petrels, Shearwaters, and Albatrosses. Although so abundant about our coasts not one of these breeds either on the mainland or even on any of the Bird-Islands round the coast. So far as we yet know, they all go away south during the breeding-season. This is also the case with a few of the Terns, such as the Kerguelen (*Sterna vittata*) and the Sooty Tern (*Sterna fuliginosa*). The following is a complete list of Migratory Birds, so far as I have been able to arrange them, and a survey of the various Orders into which they are divided.

I. Northern Migrants.

Oriolus galbula.	Lanius collurio.
Anthus trivialis.	Sylvia simplex.
Motacilla capensis.	" cinerea.
" flava.	Phylloscopus trochilus.
" borealis.	Hypolais icterina.
" melanocephala.	Acrocephalus arundinaceus.
Lanius minor.	" palustris.

I. *Northern Migrants (continued).*

<i>Acrocephalus schoenobaenus.</i>	<i>Crex pratensis.</i>
<i>Locustella fluviatilis.</i>	<i>Ortygometra porzana.</i>
<i>Cisticola cursorans.</i>	<i>Glareola pratincola.</i>
<i>Erithraeus philomela.</i>	" <i>melanoptera.</i>
<i>Saxicola oenauthe.</i>	<i>Arenaria interpres.</i>
<i>Muscicapa grisola.</i>	<i>Squatarola helvetica.</i>
<i>Chelidon urbica.</i>	<i>Ægialites geoffroyi.</i>
<i>Cotile riparia.</i>	" <i>asiatica.</i>
<i>Hirundo rustica.</i>	" <i>hiaticola.</i>
<i>Cypselus apus.</i>	" <i>alexandrina.</i>
<i>Caprimulgus europæus.</i>	<i>Totanus calidris.</i>
<i>Coracias garrula.</i>	" <i>glottis.</i>
<i>Merops apiaster.</i>	" <i>stagnatilis.</i>
" <i>persicus.</i>	" <i>glareola.</i>
<i>Cuculus canorus.</i>	" <i>ochropus.</i>
<i>Coccytes glandarius.</i>	" <i>cinereus.</i>
<i>Falco subbuteo.</i>	" <i>hypoleucus.</i>
<i>Tinnunculus vespertinus.</i>	<i>Pavoncella pugnax.</i>
" <i>amurensis.</i>	<i>Tringa canutus.</i>
" <i>nauranni.</i>	" <i>bairdi.</i>
<i>Buteo desertorum.</i>	" <i>minuta.</i>
<i>Milvus ægyptius.</i>	" <i>subarquata.</i>
" <i>korschun.</i>	<i>Calidris arenaria.</i>
<i>Pernis apivorus.</i>	<i>Gallinago media.</i>
<i>Circus cineraceus.</i>	<i>Hydrochelidon hybrida.</i>
" <i>macrurus.</i>	" <i>leucoptera.</i>
" <i>æuginosus.</i>	<i>Sterna cantiaca.</i>
<i>Ciconia alba.</i>	" <i>macrura.</i>
" <i>nigra.</i>	" <i>minuta.</i>
<i>Ardetta minuta.</i>	<i>Stercorarius crepidatus.</i>
<i>Spatula clypeata.</i>	" <i>pomatorhinus.</i>

II. *South African Migrants.*

<i>Hirundo albigularis.</i>	<i>Chrysococcyx klaasi.</i>
" <i>cucullata.</i>	" <i>smaragdineus.</i>
" <i>semirufa.</i>	<i>Coccytes jacobinus.</i>
<i>Cypselus africanus.</i>	" <i>hypopinarius.</i>
<i>Eurystomus afer.</i>	" <i>serratus.</i>
<i>Halcyon swainsoni.</i>	<i>Falco minor.</i>
<i>Iynx ruficollis.</i>	<i>Abdimia abdimii.</i>
<i>Cuculus gularis.</i>	<i>Cursorius temminckii.</i>
" <i>solitarius.</i>	<i>Rhinoptilus chalcopterus.</i>
" <i>clamosus.</i>	<i>Lobivanellus lateralis.</i>
<i>Chrysococcyx cupreus.</i>	

III. *Partial Migrants.*

Dilophus carunculatus.	Anas undulata.
Pholidauges verreauxi.	Nyroca erythrophthalma.
Oriolus notatus.	Vinago delelandi.
Estrilda dufrenoyi.	„ schalowi.
Spermestes scutatus.	Columba arquatrix.
„ nigripes.	Æna capensis.
Camaroptera sundevalli.	Coturnix africana.
Cotile paludicola.	„ delagorguei.
Hirundo dimidiata.	Excalfactoria adansoni.
„ smithi.	Pteroclorus namaqua.
„ puella.	Bugeranus carunculatus.
Upupa africana.	Otis ludwigi.
Cypselus barbatus.	„ caffra.
„ caffer.	„ kori.
Coracias mossambicus.	Ædienemus capensis.
Merops nubicoides.	„ vermiculatus.
Halcyon senegaloides.	Cursorius rufus.
Cuculus poliocephalus.	Rhinoptilus africanus.
Coccyzus cafer.	Hoplopterus armatus.
Astur polyzonoides.	Ægialitis venusta.
Dissura microscelis.	Numenius arquatus.
Ibis æthiopica.	„ phæopus.
Phœnicopterus roseus.	Gallinago nigripennis.
„ minor.	Sterna fluviatilis.
Dendrocycna viduata.	

From what I have said it will be seen that, at present, while our knowledge is so incomplete, it would be most unwise to evolve any theories on migration in South Africa, and my chief object in putting together these few notes is to draw the attention, especially of residents here in South Africa, to the great dearth of observations hitherto recorded on this subject.

I am in hopes of making some advance by the distribution of schedules for the purpose of recording day by day and month by month the appearance of different species of birds, both among the lighthouse keepers along the coast and also among the teachers in the schools all over the country, and anyone else who will undertake to make observations, and I hope, eventually, to perhaps secure some more data for further work. I fear it will be some time before I shall be

able to obtain the services of 6000 assistants, as has been done by Mr. Hermann in Hungary, but I hope we may be able to throw some further light on the subject in this way.

Appended is the form of the leaflet which it is proposed to issue and the schedule for observation records.

Notes on Methods for Recording the Migration of Birds.

It is of very great scientific interest to obtain information about the movements or migration of Birds, as very little is known on the subject in South Africa.

In South Africa, Birds may be divided into four classes as far as migration is concerned :—

- (1) Migrants from the Northern Hemisphere, *i. e.* Birds which breed in Europe or Asia during the Northern summer and which come southwards as far as South Africa between the months of October and March to avoid the European winter, but which do not, as a rule, breed here. Examples are : the European Swallow, the Flycatcher, the Roller or Bluejay, Montague's Harrier, and many shore and wading birds, such as the Ruff, Sanderling, Turnstone, and Kentish Plover.
- (2) African Migrants.—These spend the Southern summer months (October to March) in South Africa and breed there and move off, probably into tropical Africa, during our winter. Examples are : the Stripe-breasted Swallow, the Red-chested Cuckoo, and many others.
- (3) Wanderers.—Birds which move from place to place in an irregular manner, probably due to the presence or absence of food-supplies. Such are the Locust Birds, the Wattled Starling, and Nordmann's Pratincole, also the Cape Quail, as well as many others.
- (4) Residents.—Birds which remain in the same place all the year round and hardly move away at all. Such are the Turtle and Laughing Doves, the Cape Sparrow, the Thrush, Fiscal and many others.

Between these various classes there are doubtless many birds which are intermediate in habit and which do not

strictly fall into any one of them ; moreover, this classification is chiefly drawn up for the Land-birds ; of the movements of the Sea-birds we know little or nothing.

The schedules sent out are for the purpose of obtaining more definite information about the movements of birds, and it would be of great assistance if observers would carefully fill in particulars thereon of all birds observed or collected by them.

In order to identify the birds it will be best if the examples could be skinned, following the directions sent herewith, and forwarded by post ; but failing this it will be generally possible to identify the birds by the wings, beaks, and legs if these be simply removed from the body and dried. The birds should be sent to the Museum at once, and to each should be attached a ticket giving particulars of date and locality.

Parcels and letters, if addressed to the Director of the South African Museum, Cape Town, P.O. Box 61, and superscribed "On His Majesty's Service," are carried free of charge by post and need not be stamped.

XII. (a).—*Notes on some Migratory Visitants to Kroonstad, Orange River Colony.* By EDMOND SYMONDS, M.R.C.S., L.R.C.P.

THE object of making the subjoined incomplete observations upon the summer and winter visitants to this district is not so much with the idea of recording anything of striking novelty as with the hope of inducing others to prepare notes on the migrants in other parts of the country with detail of climatic, seasonal, and any circumstances which may tend to throw light on the still puzzling reasons for Migration.

Although I have kept no precise data of the appearance and departure of the various species to which I refer, I know, from my almost daily journeying in my neighbourhood, the months in which most of our visitors make their advent and exodus.

Of the Birds of Prey the first to appear is *Circus macrurus* (Pale Harrier), which may generally be seen about the middle of October skimming over the veld and, as a rule, close to a road. It appears to feed on locusts and the big blue lizard commonly seen at the sides of the pathways. I have never observed them touch small birds. They disappear towards the end of March or beginning of April just as suddenly as they arrive, and I may here draw attention to the suddenness of both arrival and departure of nearly all the migratory species of this district. Shortly after the arrival of the Harrier is observed *Buteo desertorum* (Steppe Buzzard), which may usually be seen about the end of October sitting on an ant-heap, fencing- or even telegraph-pole. This bird has a bad reputation, being very fond of chickens and also preying freely on the small and young birds in the veld. I saw one strike a young Francolin out of a covey I flushed near the road late one afternoon, and holding on after his stoop pick it to pieces. This Buzzard disappears in March before the Harriers. I cannot find any reason to suppose that either of these two species nest here, and as most of our Falconidæ nest in our early summer I think it is highly probable that neither the Harrier or Buzzard ever breed here. [Dr. Symonds is, so far as is known, quite correct in his conclusion.—EDD.] The only member of the Family which I have found nesting here in our winter is *Tinnunculus rupicolus* (South African Kestrel), which breeds here regularly and is with us all the year round.

An interesting group, the members of which come and go in a somewhat irregular manner, is the Caprimulgidæ, being in some years very common and in others entirely absent. I have never noticed them earlier than the end of November or beginning of December. All the specimens I have actually obtained have been shot in January. In 1885 I saw a pair in June, but in that year they had been very common. The species I have collected are *C. pectoralis* (South African Nightjar), *C. rufigena* (Rufous-necked Nightjar), and one specimen of *C. fossii* (Mozambique Nightjar) [*q. v.* 'Ibis,' 5th series, vol. v. 1887, p. 327]. During the last five years

the Caprimulgidæ appear to have absented themselves entirely from this district, and I have not seen *one*, although I have frequented their old haunts during the evening. I do not know the exact date when they leave on their migratory movements, as they are not easy to see, although I have sometimes caught sight of them in the daytime lying flat on the branch of a willow; their presence was only noticeable owing to their bright eye catching and reflecting the light.

Another most interesting group here is the Cuculidæ, of which three visit us. The first to arrive is *Chrysococcyx cupreus* (Didric Cuckoo), which appears in large numbers, and is followed by *Coccytes glandarius* (Great Spotted Cuckoo), which is also common. *Coccytes jacobinus* (Black-and-White Cuckoo), the third, is rather rare. I had a young specimen of the first named hatched out in a Sparrow's nest in the eaves of my house (*q. v.* 'Ibis,' 1887, p. 328), and since that date have found a young bird just ready to fly in the nest of the Cape Weaver-Bird (*Sitagra capensis*), which is very common here and makes its nest on the branches of the willows overhanging the water. It is rather a mystery how the female Cuckoo can place her egg into either of these nests, as they both seem too small. The Didric arrives in October and departs suddenly in April. *C. glandarius* is very noisy and chattering and, if not seen, can usually be heard. Although I have never been successful in finding a young bird, I think it is probable that the species breeds here: the males, which are easily distinguishable from the females on the wing, chase each other vigorously from the time of their arrival; this habit becomes less marked in December and ceases entirely by January: all have disappeared by the end of March. *C. jacobinus* is a regular visitor, but I have never seen it before November, and then, as a rule, only two or three pairs on the Valsch River. Here they usually frequent the same neighbourhood and are fond of the tops of large mimosas. I have never seen them on the ground. They are always in pairs and leave us early in March.

XII. (b).—*Notes on some Members of the Family Ploceidæ occurring in the Kroonstad District, Orange River Colony.*
By EDMOND SYMONDS, M.R.C.S., L.R.C.P.

MANY of the Ploceidæ are—although belonging to different sub-families and genera—familiarily known as “Waxbills,” and are not only pretty and interesting in captivity, but rather puzzling to the observer. The following remarks may be worthy of reproduction.

1. SPOROPIPES SQUAMIFRONS. (Scaly-feathered Weaver Bird.)

This is not a very regular visitor; in some years it is abundant, and then disappears for a year or two. I have never known it nest here, and have only observed them once in our winter months. I have kept some in my aviary, but they are so pugnacious and quarrelsome that I was glad to get rid of them.

2. VIDUA REGIA. (Shaft-tailed Weaver Bird.)

This is not a common visitor; it always, as far as I am aware, appears in our summer, and although it is possible that it may occur in winter, I hardly think it likely, as I have never observed any in transitional plumage so noticeable in the case of other closely allied species. The males are often seen together in pairs accompanied by a crowd of sober-plumaged females. They are very fond of sitting on a wire fence and flying rapidly to and fro between the ground and the fence. They are mostly found on the outskirts of the town and in the gardens. On a farm some distance from here I observed a pair of males as usual and several females, and a nest was commenced in a peach-tree but never finished, though protected as far as possible. I kept one once in my aviary, but he died before changing his garb: they seem delicate and difficult to keep in confinement, like some others of the same family.

3. VIDUA PRINCIPALIS. (Pin-tailed Widow Bird.)

Common here all the year round, and lives fairly well in an aviary.

4. QUELEA QUELEA. (Red-billed Weaver.)

Fairly common here all the year round ; they build nests in an aviary, but pull them to pieces as fast as they build them, and I have never yet known them lay in confinement. Can anyone tell me the meaning and derivation of the name *Quelea*?

5. CALIOPASSER PROCNE. (Great-tailed Widow Bird.)

Common here all the year round.

6. PYROMELANA ORYX. (Red Bishop Bird.)

Very common here, and builds in the reeds on the river-banks.

7. PYROMELANA CAPENSIS. (Black-and-Yellow Bishop Bird.)

Also common in the long grass about the vleis.

8. AMADINA ERYTHROCEPHALA. (Red-headed Weaver Finch.)

Common here throughout the year ; very tame and lives well in a cage, where it attracts others, which come and sit on the outside of the aviary.

9. ESTRILDA ASTRILDA. (Common Waxbill.)

Large flocks here all the year. They make charming little cage-birds.

10. ESTRILDA ANGOLENSIS. (Blue-breasted Waxbill.)

These are decidedly rare here, and some years conspicuous by their complete absence. I have only found them in the summer, and once found a nest in a low mimosa-bush on the Rhenoster River: I saw the bird fly out and took the nest, which was rather oval-shaped, made of dried grass, and was not lined. The eggs, six in number, were round and pure white. These are delicate birds and difficult to keep in a cage, the cold winters seeming to kill them.

11. ESTRILDA GRANATINA. (Grenadine Waxbill.)

Some years these beautiful birds are plentiful and found winter and summer in the bush along the river and also at



Photo by C. B. Horsbrugh, Pretoria.

OTIS GÆRULESCENS (Blue Knorhaan).

FIG. 2.

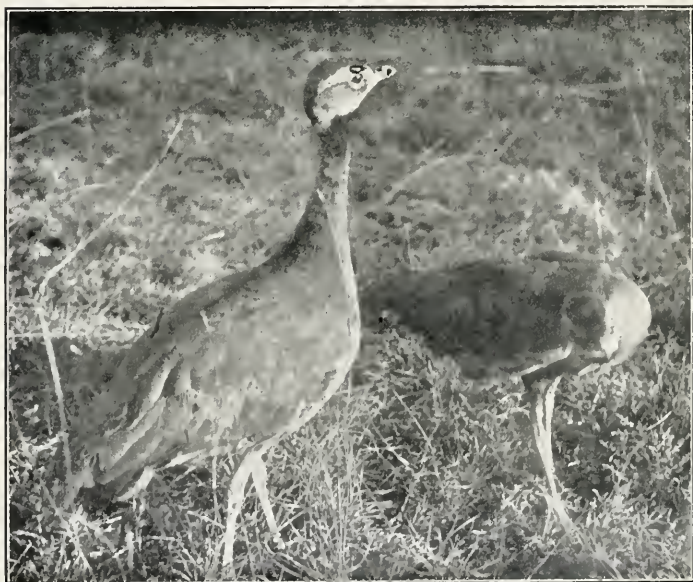


Photo by C. B. Horsbrugh, Pretoria.

OTIS CÆRULESCENS (Blue Knorhaan).

Rhenoster Kop, which is near here. In other years not one is to be seen. I have never yet found a nest; the boys do a large trade in catching them in trap-cages and selling them, but they require a lot of care to keep them safely through the winter. I have seen them in flocks of at least fifteen to twenty, and they can be easily recognised by the blue rump.

12. LAGONOSTICTA RUBRICATA. (South African Ruddy Waxbill.)

One winter these were quite common, and I caught several in a hedge in my garden. They lived in my aviary for two or three years, always thrived well, and weré very tame, coming to feed from the hand. Strange to say, I have never seen them here since.

For all these birds I find the best food is what is known here as "manna" or "millet," which is best given in the ear, so that they can pick out the seed for themselves; all that falls to the bottom of the cage they also pick up, together with the sharp sand. I tie up a bundle of the grain in the cage, and it is very interesting to watch the different varieties at work together, chattering incessantly all the time.

XIII.—*Some Observations upon the Behaviour and Treatment in Captivity of Otis caeruleus (Blue Knorhaan).* By C. B. HORSBRUGH.

(Plate I.)

THE photographs of the Knorhaan illustrating these notes were taken at no distant date, and as the birds are now almost, if not quite, adult, their plumage, as time advances, will, I believe, show little appreciable difference in coloration to that which they have now assumed. To photograph such a bird in its natural haunts would be no light undertaking, so

that if these remarks were to appear in some Avicultural Magazine I cannot but feel that such a periodical would be the most appropriate medium for them; these particular birds being in a state of domestication, and, doubtless, exhibiting traits foreign to their wild relations on the veldt.

The species which this article concerns is the Blue Knorhaan (*Otis corrulescens*), a pair of which, as well-advanced chicks, came into my brother's possession some five months ago. They were purchased for him in the Bloemfontein market for a trifling sum, and, since the day they were obtained, have been given as much liberty as is consistent with their safety. Last week they had a narrow escape, and nearly shared the fate of a pair of young Spur-winged Geese (*Plectropterus gambensis*) destined for the Pretoria Zoo, which met an untimely end through the attentions of a wretched cur. For a little time every day they are allowed the freedom of the garden, and, when they have sufficiently exercised their wings and performed their weird dance, they then proceed to enjoy a dust-bath. If, however, the hose-pipe happens to be playing on the plants in the flower-beds they perhaps undergo a slight bath in addition to their dry-cleaning process. They then carefully preen their feathers in the sunshine and rest themselves after their ablutions. Every evening they are driven inside a large hen-house which has been erected in the fowl-run solely for their accommodation: otherwise they would speedily become the victims of prowling cats or dogs, as did the unfortunate Geese which had no such refuge. To ensure the safety of these interesting pets every possible precaution has been taken; the chief danger which might threaten them at any time being perhaps in the shape of a Crow or Hawk. Luckily these enemies are not very plentiful, and a gun is always at hand should any appear. Knorhaans are uncommon birds to keep in captivity, and of the numerous visitors who have inspected them, all state that they have never heard of this species having been successfully kept in confinement before. It is only this month (August) that I have seen this Knorhaan as a wild bird, but, owing to its shyness, I could make no comparison between them and

the tame ones. All that I have as yet observed were in small flocks of from three to five in number, but our best executed manœuvres to circumvent any were without success.

In Woodward's 'Natal Birds' he quotes Major Butler, who, besides mentioning the fact that he regards the Blue Knorhaan as common in the vicinity of Ladysmith, also states that the note resembles the words *kuk-pa-wow* repeated several times. To my mind the harshly-uttered expression *knock-me-down* gives a clearer idea of their curious cry, and doubtless the sportsman after a bad miss or lost opportunity must resent the apparent jeer when his quarry vanishes beyond pursuit. The pair under observation also utter a soft, almost inaudible, call-note, too difficult, I find, to describe accurately on paper, though of late the male has begun to practice the notes described by Woodward. With regard to the hen, I believe she has attempted no others beyond those to which she has always been accustomed. So tame are they that one can only walk with difficulty in their run, and the fearlessness they evince towards everyone is curious to witness. Only towards the house-dog, a mongrel fox-terrier, do they show animosity when he lets curiosity overcome his natural timidity, and approaches too near for their comfort. The cock Knorhaan, without much warning, often executes a "*pas-seul*," letting his wings drop from their usual position, and "fluffing out" the feathers of his head and neck, at the same time outspreading and moving the tail from side to side and then taking a short flight by way of ending the performance. Judging by the wild ones I have seen they seem to be slightly larger than their near relatives the Black Knorhaan (*Otis afra*): yet, on the other hand, these two individual birds belie this fancy. Again, there is a perceptible difference in respect of the colouring of the legs in these two species, for those of the Black variety, in the adult stage, are chrome-yellow, whilst those of the Blue are of a very pale straw, or dry grass tone. Further, the peculiar shading of pink, pale yellow, and horn in the beak in the former is quite at variance with that of the latter, and the Black has a straw-coloured iris and the Blue a brown, which latter is darker in

the male than the female, according to the observations made of my brother's specimens. With such a veldt haunting bird as this species one would naturally expect it to take toll of the locust swarms when these occur, and the avidity with which the tame ones swallow these insects gives ground for the belief that they form their staple food (as they must with many other birds), varied with spiders, beetles, ants and their eggs, and possibly a little vegetable diet.

In addition to the above menu the tame ones consume lettuce, bread and milk, and a small quantity of Quaker Oats, but any other variety of cereal they leave untouched. It is regrettable, but it was a matter of absolute necessity that their flight-feathers had to be shortened, as were it not for this treatment they would soon escape from the large enclosure in which they spend their lives. A striking dissimilarity in size, which should have been notified earlier in these notes, is apparent between these two birds: the male, by reason of his larger bulk and brighter plumage, is more conspicuous than his mate. In conclusion, I might mention that a characteristic peculiar to this latter which I have lately observed is, that she often rests the body on the tarsus, particularly when any soft material, such as a lady's dress or piece of sacking, is near by; and on it she contentedly squats till requested to depart elsewhere.

XIV.—*Ornithological Notes from Natal.*

By ALFRED D. MILLAR, Col.M.B.O.U.

1. The Genus MOTACILLA. (Wagtails.)

These birds are so named from their peculiar habit of constantly vibrating their tails upwards and downwards. They are now protected by special enactment in Natal by reason of their utility in destroying and eating insects, of which they are constantly in search.

Seven species are found in South Africa, but of these only three are resident, all of which have taken up their abode in Natal, the remaining four being migrants from Europe.

The three species known here are the African Pied (*Motacilla vidua*), the Grey-backed (*M. longicauda*), and the Cape Wagtail (*M. capensis*), all of which belong to the group known as the Pied Wagtails.

The nesting-habits of the first and last-named species are fully described in Stark's 'Fauna of South Africa,' Birds, vol. i., but the eggs of the Grey-backed (*M. longicauda*) so far appear to be unknown to collectors, and have not been previously recorded. These notes, therefore, may be of interest to the oologist.

My discovery of the young in previous years gave me some idea as to the date when to expect the nesting, and consequently in September last (1904) I carefully watched a pair of these delicate and graceful birds flitting about the shady nooks of the Palmeit River, actively engaged in searching for the larvæ of dragon-flies or other insect life and warbling beautifully.

At last, after a very lengthy search, patience was rewarded, the nest being found carefully hidden in a nook on the overhanging rock of a precipice, with a deep pool of water a few feet below, close to where they had nested the previous year.

It was somewhat bulky, roughly constructed outwardly of dead leaves, grass, and other materials gathered from the water's edge, but inwardly a snugly-built cup-shaped hollow was lined with fibrous tissues. When visiting the nest on the 22nd September last it contained two freshly-laid eggs.

On the 15th October the same pair of birds had again nested within a few yards of the same spot and had laid three eggs which were then slightly incubated. I presume, therefore, the clutch consists of three eggs.

The eggs measure $\frac{1}{2} \times \frac{7}{8}$ inch, and, although of the usual Wagtail-shape, are distinguishable from the other Pied species by the lighter ground-colour, which is grey, freckled with brown irregular markings at the obtuse end, some of the eggs having a dark hair streak circling the crown.

2. HALCYON CHELICUTI. (Striped Kingfisher.)

Several pairs of these birds were noticed by me at the

Lower Tugela, known as Bond's Drift, on the 23rd October last, and after carefully observing them I was surprised to find one had nested about 20 feet from the ground in the nest-hole of a Black-collared Barbet (*Lybius torquatus*), and that the old birds were feeding their young on locusts.

I closely watched them for some considerable time catching the locusts in the air; after battering them about on the branches until life was apparently extinct, they then flew to the entrance of the nest, when the young birds at once appeared and greedily devoured the captures.

On the following day I came across another nest, which was also in the hole of a Barbet about the same distance from the ground; this also contained young.

Although there were suitable banks in the vicinity frequented by numbers of other Kingfishers, it seems strange that these birds selected the trees, and as Mr. Sclater mentions that this habit was observed by Böhm in German East Africa, it may be a peculiarity of this peculiar species; it will be interesting to learn if they likewise build in banks, as is customary with other Kingfishers.

3. BARBATULA PUSILLA. (Tinker Bird.)

Like the Barbets, this Tinker Bird makes a small round hole in the dead bough of a tree when nesting, but usually inside the forest about 10 feet from the ground. They lay two pure white eggs, elongated ovals, $\frac{3}{4} \times \frac{7}{12}$ inch.

Their nesting-season is during the latter part of October and early in November.

4. IYNX RUFICOLLIS. (South African Wryneck.)

I have found a number of these birds nesting, all of which were either in Barbets' or Woodpeckers' holes. The last taken by me was on the 28th August, and contained four fresh white eggs. The bird had its head out of the hole, but noticing my approach quickly drew in. I climbed the tree with the assistance of a ladder, and, clinging to the bough about 25 feet from the ground, endeavoured to frighten the bird out of the nest by knocking the tree, but it refused to be drawn, and I had to chop out the entrance, exposing the



Photo by R. H. Iyy, Grahamstown.

Nest of *PASSER ARCUATUS* (Cape Sparrow) with Nestling
of *CHRYSOCOCCYX CUPREUS* (Didric Cuckoo).



Photo by R. H. Iyy, Grahamstown.

Nest of *PARISOMA SUBCÆRULEUM* (Tit-Babbler) with Egg
of *CHRYSOCOCCYX CUPREUS* (Didric Cuckoo).

bird on the nest ; even then it refused to quit until I had actually touched it with a twig.

The eggs are similar in shape to the Woodpeckers', and measure $1\frac{1}{2} \times \frac{7}{12}$ inch.

XV.—*Notes on the Nidification of the Members of the Genus Chrysococcyx.* By ALWIN K. HAAGNER, F.Z.S., M.B.O.U., and ROBERT H. IVY, S.A.O.U.

(Plates II. & III.)

CHRYSOCOCCYX SMARAGDINEUS. (Emerald Cuckoo.)

This bird is rare about Grahamstown, although it becomes commoner towards the Great Kei River. The Woodward's are the only previous observers who have noticed the nidification of this species. Two birds were shot in October and December containing shelled eggs, one white and the other white speckled with purple (*vide* Selater, "Birds," Fauna of S. A. vol. iii. p. 186).

A young bird with "quill" feathering was taken from a nest of the Cape Sparrow (*Passer arcuatus*) on Keevey's Farm, at Koonap. Koonap River is part of the dividing line between the Albany and Beaufort Districts of Cape Colony. It only lived for about a fortnight, but developed very quickly, as it had the yellow underparts and bright metallic coloration of the upperparts before it died.

CHRYSOCOCCYX KLAASI. (Klaas' Cuckoo.)

The egg of this species varies in shape and colour, but not, so far as we are aware at present, so much as that of the Didrie (*C. cupreus*). On November 9th, 1902, Mr. Pym took a clutch of seven eggs—six of the Malachite Kingfisher (*Corythornis cyanostigma*) and one larger and more elongated egg (*vide* fig. III., Plate III.), which was ascribed to Klaas' Cuckoo (*vide* Ivy, 'Ibis,' 1901, p. 28). This egg was beautifully transparent ; the yolk showed through the shell and gave a pinkish tint to the egg. On blowing the eggs the yolk of the Cuckoo's was found to be of a much deeper shade of orange than that of the Kingfisher's. In December 1895

a young bird of this species was taken from the nest of *Cinnyris afer* (Scarlet-chested Sun-bird), coloured like the adult female.—In December 1898 Mr. Roy Ivy took a young female from a nest of the same species, which also resembled the adult. A photograph from life was obtained. In December 1900 and on November 9th, 1901, two nests of *Apalis thoracica* (Bar-throated Warbler) were taken on Belmont Farm, Grahamstown, in almost the same spot. One nest contained three small verditer-blue eggs spotted with red-brown of the Warbler, and one much larger egg. The other nest contained four of the Warbler's eggs and another much larger egg identical with the first one taken. On the last occasion the Cuckoo was seen within a few inches of the nest. These two eggs resembled those of the Warbler in coloration, but, as will be seen from the photograph (Plate III. figs. 1. & v.), they are much larger and differ also in shape, being more rounded at either extremity.

Other hosts of this Cuckoo are the Cardinal Woodpecker (*Dendropicus cardinalis*) [Victorin] and the Amethyst Sun-bird (*Cinnyris amethystinus*) [Fitzsimmons].

CHRYSOCOCCYX CUPREUS. (Didric Cuckoo.)

It appears quite conclusive to us that the eggs of this bird vary considerably in size, shade, and markings. In support of this view we venture to submit the following remarks:—In the first place, it has been described as *white* by more than one competent observer, including Mrs. Barber, Messrs. Le Vaillant and Jackson. Mr. Ayres says he took a spotted egg from the ovary of a female, and that the Sparrow is the usual host; this was the case at Springfontein, O.R.C., in 1890, when a large number of Didric Cuckoos were taken from the nests of *Passer arcuatus*, but not *one white* egg was found; and at Modderfontein, Transvaal (*vide* Haagner, 'Ibis,' 1901, p. 16). Messrs. A. D. Millar, Austin Roberts, and Major Sparrow have also found it spotted (*vide* Journal S. A. O. U. vol. i. p. 17), while Fitzsimmons took a blue egg from the ovary of a female. In January 1890 a nest of *Parisoma subcaeruleum* (Tit-Babbler) was taken at Coleman's Farm,

Modder River, in the Bloemfontein District of the O.R.C., with one egg of *C. cupreus* (vide 'Ibis,' 1901, p. 28, Ivy). This tiny nest contained the two eggs of the Tit-Babbler and one much larger pure white egg which was, almost without doubt, that of the Didrie, as one of these birds insisted on returning to the tree in which the nest was situated. The larger egg can be distinctly seen protruding from the nest in the photograph (Plate II. fig. 1). In March 1903, five young *C. cupreus* were taken from Sparrows' nests, and over 100 eggs were examined, but none differed from the ordinary Sparrow egg. On November 17th, 1903, near the ford of the Johannesburg-Pretoria road, a colony of Masked Weaver-Birds (*Hyphantornis velatus mariqueensis*) were found breeding in a tree overhanging the Yokeskei River. In three of the nests one egg was found entirely different from the others in the same nest. These eggs were precisely similar to each other in size, shape, and markings, being of a dull greenish blue spotted with brownish, and were distinctly smaller than the eggs of the Weaver, and also slightly different in shape, being more attenuated. One of the eggs was in a nest with the typical "blue-spotted with brown," *velatus* variety, another with white, and the last with "pink-spotted" eggs. There seems little doubt that these eggs were those of *C. cupreus*, as these Cuckoos were extremely common all along the river, and one actually flew away from the nests as the tree was approached. On 29th November of the same year, at Modderfontein Dynamite Factory, a pure white egg was discovered in the nest of a Cape Wagtail (*Motacilla capensis*). The nest was situated on the top of a willow stump, and contained, besides the *white* egg, three typical Wagtail's eggs. A pair of *C. cupreus* were very much in evidence in the neighbourhood of the nest, making the woods resound with their noisy, plaintive calls. In order to absolutely prove the identity of the egg, it was left in the nest to hatch out. On visiting the nest several days later one young bird was found in it, which could easily be told as a Cuckoo by its beak and zygodactyle feet. The eggs of the rightful owners of the nest had disappeared and had no doubt been ejected. The

nestling, when only half-grown, quite filled the nest, and must have sorely tried the unfortunate foster-parents in their endeavours to appease its voracious appetite; whenever the nest was approached the young bird would raise itself with beak widely distended clamouring for food, with loud cries. It finally flew from the nest (in less than a fortnight) a typical young Didric. In the Uitenhage, Grahamstown (C.C.), Bloemfontein and Springfontein Districts (O.R.C.), this species is fairly plentiful, and in the Pretoria District they are very common; in all those localities the usual host is the ordinary Cape Sparrow (*Passer arcuatus*), the next commonest being the Masked Weaver (*Hyphantornis*). The young at first have a bright coral bill, which turns to a salmon tint and finally becomes the blackish and horn-colour of the fully adult bird. They assume the brilliant metallic colouring of the adult before they leave the nest, differing only in those particulars as enumerated in Selater's 'Fauna S. A.' Birds, vol. iii.—In January 1906, at Koonap, near Beaufort, C.C., seven young Cuckoos were taken from the nests of the Cape Sparrow and the Spotted-backed Weaver (*Hyphantornis spilonotus*). Here, again, no single instance can be recorded where an egg differed from the ordinary "Sparrow" or "Weaver" types. There was one notable clutch of six (the usual number is three or four) presumed Sparrow eggs—four dark and two light coloured ones (which latter were much like the ordinary lighter type of Sparrow egg). On blowing the "light" eggs one was found to contain a young bird, which had the swollen nostrils characteristic of Cuckoos. The embryo Sparrows were, on the other hand, without these swollen nostrils, and were also smaller than the embryo Cuckoo.—On Plate II. fig. 2 will be seen a young Didric Cuckoo in the nest of a Cape Sparrow, with the male foster-parent perched above the nest. This photograph was taken at Koonap River.—On the 31st December, 1905, a female of *C. cupreus* was shot on the banks of the Crocodile River, north of Commando-nek in the Magaliesberg Range, Transvaal. She, with her mate, was flying about the trees containing a colony of nesting Shelley's Weavers (*Hyphant-*

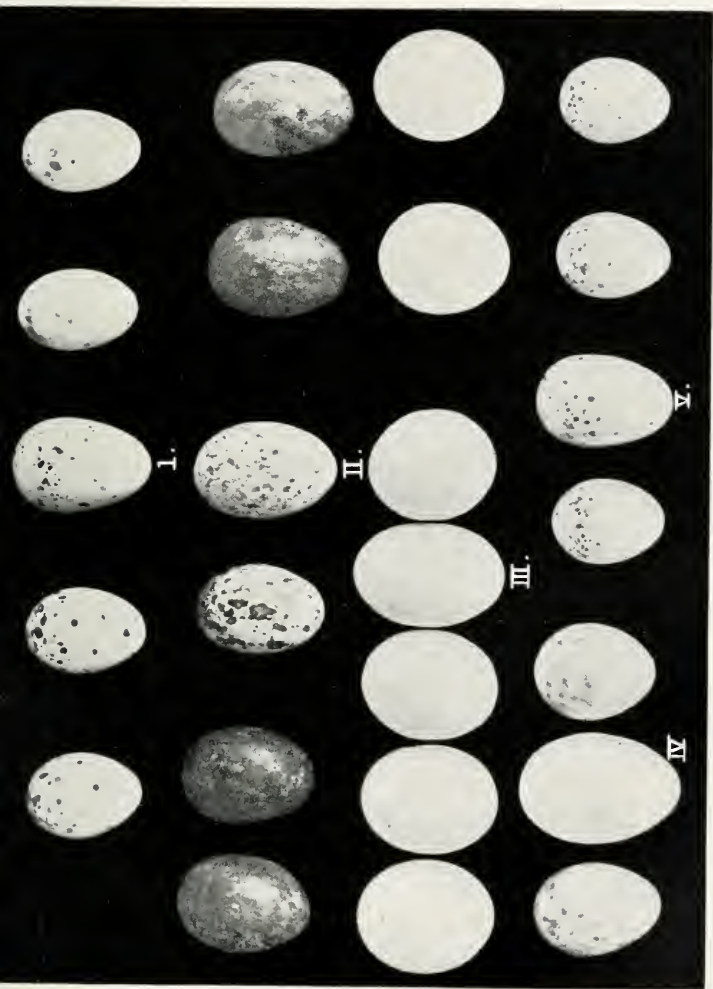


Photo by R. H. Ivy, Grahamstown.

Eggs of *CHRYSOCCOCCYX KLAASI* (Klaas' Cuckoo) and *CHRYSOCCOCCYX CUPREUS* (Didric Cuckoo) with those of Hosts.

- I. Eggs of *APALIS THORACICA* (Bar-throated Warbler) with Egg of *C. KLAASI*.
- II. " *PASSER ARCUATUS* (Cape Sparrow) with Egg of *C. CUPREUS*.
- III. " *CORYTHORNIS CYANOSTIGMA* (Malachite Kingfisher) with Egg of *C. KLAASI*.
- IV. " *PARISOMA SUBCERULEUM* (Tit-Babbler) with Egg of *C. CUPREUS*.
- V. " *APALIS THORACICA* (Bar-throated Warbler) with Egg of *C. KLAASI*.

ornis auricapillus), and when shot was found to contain a pure white egg in her oviduct. This egg most nearly resembles No. IV. on Plate III., being, however, a little more pointed at the acute end, and measures 21.5 mm. by 15 mm.

Major Sparrow's view that the eggs are *not* white would appear to be ill-founded, as we think we have conclusively proved that not only *is* such the case, but that these birds lay eggs which show a considerable diversity in colour, size, shape, and markings.

XVI.—*Notes on certain Birds hitherto unrecorded from the Transvaal.* By LIONEL E. TAYLOR, F.Z.S., M.B.O.U.

THE following species have, so far as I am aware, never been previously recorded from the Transvaal in any published work, although, possibly, some of them may have been obtained in the Colony by other collectors who have never made public their results. My thanks are due to Mr. W. L. Selater for having kindly identified the specimens forwarded to him. Those species initialled [C. H. T.] were procured by my brother Mr. C. H. Taylor; those initialled [L. E. T.] by myself. The numbers prefixed to each species are (where applicable) those given in Selater's Check-list of the Birds of South Africa ('Annals of the South African Museum,' vol. iii. part viii. no. 9).

29*. HYPHANTORNIS JAMESONI. (Jameson's Weaver Bird.)

A single specimen obtained near Krabbefontein in the Zoutpansberg in Oct. 1905. [C. H. T.]

Stark records this species from Swazieland, and Selater marks it in his Check-list as from the Eastern Transvaal. Possibly the latter refers to the Swazieland specimen. Swazieland is now (since 1904) included in Transvaal territory, but the Eastern Transvaal differs so greatly topographically from Swazieland that, I think, for ornithological purposes it is as well to differentiate between the two.

ANTHUS TENELLUS. (Golden Pipit.)

♂. Irene, near Pretoria, 15 January, 1906.

Length $6\frac{1}{4}$ " ; wing $3\frac{1}{2}$ " ; culmen $\frac{9}{16}$ " ; tarsus $1\frac{1}{8}$ " ; tail $2\frac{1}{8}$ " .

Iris dark brown; bill: upper mandible dark brown, lower mandible slaty-brown. [L. E. T.]

This Pipit has only previously been recorded from between 5° N. and 5° S. lat., and is therefore a new addition to the avifauna of South Africa south of the Zambesi. The yellow plumage is most striking, the underparts being bright yellow with a broad black band across the chest. The wings are also bright yellow, the tips of the primaries being black. My attention was first drawn to it as it rose from the ground close by the river. Its flight much resembled that of a Wagtail, but its gaudy plumage and sharp-pointed wings reminded one of *Mellitophagus meridionalis* (Little Bee-eater). It is an exceedingly restless bird, and it was all I could do to keep it in sight during about a quarter of an hour which passed whilst my gun was being brought by a friend. From the ground it flew to the very top of a willow tree, where it was presently joined by a bird which I took to be its mate—dull plumaged and very much like a Wagtail. The two birds chased one another for several minutes and finally separated. The male alighted twice on the ground, and always flew up on to the topmost branch of a tree. I eventually shot it on the top of a willow tree about 50 feet from the ground. The other bird—which I took to be a female—unfortunately flew away and was not seen again. Judging from the large size of the testes, I should say that the bird had undoubtedly paired for breeding. The occurrence of this species some 1250 miles from its hitherto known southerly range is interesting, and rather unaccountable, as it has, from its plumage, all the appearances of a typical tropical bird.

231. PARISOMA PLUMBEUM. (Hartlaub's Tit Babbler.)

A single specimen was procured at Kaapmuiden, on the

Delagoa Bay line, in August 1905. It was one of a pair frequenting thick scrub. [L. E. T.]

Stark and Selater record this species from Swaziland (*vide* Buckley) and Natal (*vide* Reid). In habits and plumage this species very much resembles *Muscicapa caeruleescens* (Blue-grey Flycatcher), and it would be almost impossible to distinguish between the two unless handled in the flesh.

330. ERYTHROPYGIA ZAMBESIANA. (Zambesi Ground Robin.)

♂. 12.9.05. Koodoo River, Zoutpansberg. [L. E. T.]

The only previous record of this species in South Africa south of the Zambesi is that of the type specimen obtained at Tete on the south bank of the Zambesi by Dr. Kirk. I found it very plentiful all along the road from the Koodoo River to Thabana, in the Great Letaba valley. When disturbed these birds usually fly to the top of an Acacia tree.

341. MUSCICAPA CÆRULESCENS. (Blue-grey Flycatcher.)

♀. 30.9.05. Leeuw's Creek, Barberton District. [C. H. T.]

This species has been recorded already from all the colonies south of the Zambesi, with the exception of the Transvaal.

360. GRAUCALUS CÆSIUS. (Great Cuckoo Shrike.)

6.9.05. Great Letaba valley, Zoutpansberg.

This was the only specimen which I saw. The skin was exceedingly delicate, and as it was also badly shot it was quite impossible to preserve it. Selater's Check-list only records it from Natal, Cape Colony, and Zululand.

434. HALALODERMA NARINA. (Narina Trogon.)

A single specimen was obtained in the Great Letaba Valley, Zoutpansberg, in October 1905. [C. H. T.]

Mr. W. L. Selater informs me that since the publication of vol. iii. of his 'Fauna of South Africa: Birds,' he has received one specimen from the Sabi District. This Trogon is also found in the Barberton district near Leeuw's Creek, but is a rare bird in the Transvaal.

447. *INDICATOR MINOR.* (Lesser Honey-Guide.)

A single specimen was obtained at Irene in 1904. [L. E. T.]

I can find no record of this bird having been previously obtained in the Transvaal, but it is widely distributed in all the other South African colonies. Whilst I was digging out a bees' nest at Irene last December (1905) one of these birds perched on a tree within a few yards of me, and watched my operations with considerable interest, uttering at intervals its call-note. I saw a pair subsequently on several occasions.

446. *INDICATOR VARIEGATUS.* (Scaly-throated Honey-Guide.)

♀. 9.9.05. Magabys Kloof, Zoutpansberg. [L. E. T.]

This species has only previously been recorded from Southern Cape Colony and Zululand, so that its range may now be regarded as considerably extended.

554. *POLYBOROIDES TYPICUS.* (Harrier Hawk.)

Obtained in the Great Letaba Valley, Zoutpansberg, in September 1905. [C. H. T.]

This Hawk appears to be fairly common in the low country of the Zoutpansberg District, and is frequently shot by farmers there: not hitherto recorded from the Transvaal.

A snake was found in the stomach of one specimen procured.

640. *TYMPANISTRIA BICOLOR.* (Tambourine Dove.)

A single specimen was obtained at Krabbefontein, Zoutpansberg District, on the 6th September 1905. [L. E. T.]

This species ranges through the forest regions of Cape Colony, Natal, and Zululand. I was informed by Mr. Altenroxel (of the Tzaneen Tobacco Factory) that during a residence of thirteen years in the Great Letaba Valley he had only observed this species once, and a keen and trustworthy observer at Leeuw's Creek also told me that it was regarded as a known but very rare bird in the Barberton district. It has not hitherto been recorded from the Transvaal.

697. OTIS MELANOGASTER. (Black-bellied Knorhaan.)

Three specimens were obtained in the Great Letaba Valley during September 1905. [C. H. T.]

This species has been recorded from Natal and Rhodesia, so that this record in the Transvaal forms a territorial link between the two districts. Although not plentiful it is not uncommon in the Great Letaba Valley.

OBITUARY.

Mr. EDWARD CAVENDISH TAYLOR, whose death took place in London on the 19th April, 1905, at the age of 73, was an ornithologist of considerable eminence. He was one of the original members of the British Ornithologists' Union and contributed a number of papers to its *Journal*, 'The Ibis.' He was an enthusiastic collector and in his younger days travelled somewhat extensively, devoting some attention to African Ornithology in frequent visits to Egypt and in an expedition to Tunis and Algeria in 1859. His collections of skins and eggs, numbering in all rather over 2000 specimens, were bequeathed by him to the British Museum.

Lieut.-Colonel LEONARD HOWARD LOYD IRBY, whose death took place in London on the 14th May, 1905, was well known by name as an ornithologist throughout the world. He was also a distinguished soldier, having served in the Crimea during the siege of Sebastopol, the Indian Mutiny (including the relief of Lucknow), the defence of the Alum Bagh, and the siege and fall of the former town. He was best known to English Ornithologists as the author of 'Irby's Key List of British Birds,' but was the writer of a far more important work on the Ornithology of the Straits of Gibraltar, which described many species from Northern Africa.

Colonel Irby was born in 1836.

OCCASIONAL NOTES.

(1) AN appreciative review of the first No. of Vol. I. of this *Journal* appears in the 'Ibis' for October 1905.

(2) THE thanks of the Union are due to Lieut. Stanley Pershouse, 5th M.I., for a donation of £2 2s. towards the Illustration Fund of the Journal.

(3) Mr JOHN A. BUCKNILL has been elected a Fellow of the Zoological Society of London.

(4) IN the Temporary Museum arranged at the Johannesburg Technical Institute during the recent visit of the British Association an Ornithological exhibit was shown, consisting of the collections of skins made by the Hon. Secretary of the Union (Mr. A. K. Haagner) and Mr. L. E. Taylor of Irene. This loan collection attracted considerable attention.

(5) THE number of Members of the Union at the date of the Second Annual General Meeting was eighty.

(6) AT the August (1905) Meeting of the Johannesburg Field Naturalists' Club, Mr. A. Duncan read an interesting paper entitled "Aviary Notes." He described the moult and winter plumage of the Widow Birds, and exhibited a living male of *Coliopasser albonotatus* (White-winged Widow Bird) in winter plumage. He also described the moult of *Quelea quelea* (Red-billed Weaver) and expressed the opinion that the existence as a subspecies of *Quelea quelea russi* (Russ' Weaver) was not justified, owing to the great variation in plumage of *Q. quelea*, ranging from one extreme to the other.

(7) AT the October (1905) Meeting of the same Society Mr. F. J. Ellemor read a paper entitled "Notes on the Birds of the Bezuidenhout's Valley, Johannesburg." He referred to 37 species, including *Savicola pileata* (Capped Wheatear), *Amydrus morio* (Red-winged Starling), and *Geocolaptes olivaceus* (Ground Woodpecker). His earliest date for eggs of *Motacilla capensis* (Cape Wagtail) was July 7th, which is extremely early for this district.

(8) WITH reference to the Editorial Note on page 42 of Vol. I. No. 2 of this Journal regarding the record by Mr. J. G. Brown of *Aegialitis venusta* (Fischer's Sand-Plover) near Port Elizabeth, it is extremely satisfactory to note that Mr. Brown has forwarded a specimen of this bird to Mr. Bucknill through the Hon. Sec. Mr. Brown's identification has been confirmed by Mr. Ogilvie-Grant, of the British Museum, and, as no specimen was in the possession of that institution, this one has been presented to it with the consent of Mr. Brown and Mr. Haagner.

(9) Mr. GUY A. K. MARSHALL, F.Z.S., F.E.S., whose address is P.O. Box 149, Salisbury, Rhodesia, writes that he is making an investigation upon the species of insects which are eaten by Birds in various parts of South Africa. He would be greatly obliged if any collectors would be good enough to preserve the stomachs of any birds they may shoot and forward them to him for examination. He adds: "There is no difficulty in preserving the stomachs, as they need only be screwed up in a piece of paper, labelled with the name of the bird, and placed in a box containing a plentiful supply of naphthaline or carbolic, the box being left open so as to allow of the contents drying out thoroughly. Such an investigation, apart from its purely scientific interest, will have a distinct economic value, especially if done on a sufficiently big scale."

(10) A NUMBER of Members of the Union think that as the Journal is fairly established it should be designated by some distinctive name, as are the Journals of the Societies which produce the 'Ibis,' the 'Emu,' and the 'Auk.'

Various names have been suggested, such as the 'Paauw,' 'Ostrich,' 'Falcon,' and 'Eagle.' As, however, this question was the subject matter of discussion both at the 1st Annual General Meeting (24th Sept., 1904) and at the Special General Meeting (5th Nov., 1904), on which latter date the present title was settled, the Editorial Committee does not feel disposed to make any alteration of its own motion.

(11) IN the next issue of the Journal, which will be published in December, will appear an Index of the Avifauna to which reference has been made during the life of this publication. An Index of the names of Contributors to the Journal, a List of the Members of the Union at the date of the Annual General Meeting, which will be held in August 1906, a List of the Papers published, and an Index to the Illustrations will also be provided. With the December issue it is proposed to complete the First Series of the Society's Publications.

(12) IN the December issue of this Journal will appear (*inter alia*) a paper on the Birds of North-east Rhodesia, by Dr. Stoehr and Mr. W. L. Sclater, a paper on the Birds of Irene, near Pretoria, by Mr. L. E. Taylor, a translation of a paper by Dr. Reichenow, and the description of the nest and eggs of *Mirafra rufipilea* (Rufous-headed Lark), hitherto undescribed.

(13) THE Fourth Quinquennial Congress of the International Ornithological Committee was held during the week commencing June 12th, 1905, at the London University, Imperial Institute Buildings, under the Presidency of Dr. R. BOWDLER SHARPE, of the British Museum. There was a large attendance of some 300 Members from all parts of the world, including many of the most distinguished ornithologists.

The Congress was divided into five sections :—

1. Systematic Ornithology and Geographical Distribution.
President : Dr. P. L. SCLATER.
2. Migration. President : Herr OTTO HERMAN, of Hungary.
3. Biology and Oology. President : Dr. FATIO, of Switzerland.
4. Economic Ornithology. President : Mr. H. E. DRESSER.
5. Aviculture. President : Mr. E. G. B. MEADE-WALDO.

An informal meeting was held at the Imperial Institute

Buildings on the evening of the 12th, and on the morning of the 13th Dr. Sharpe read a Presidential Address on the origin and progress of the national bird-collection in the British Museum. In the afternoon, meetings of Sections I. and IV. were opened, and interesting papers read by different members: Dr. R. Blasius, of Brunswick, on Methods of Nomenclature; Dr. Louis Bureau, of Nantes, on the Roseate Tern (*Sterna dougalli*, Mont.) on the coast of Brittany; and Graf von Berlepsch, of Berlin, on some new Neotropical Birds. In the IVth Section, papers on Bird Protection in Great Britain and Australia were read by Mr. T. Digby Piggott and Sir John Cockburn respectively.

On the 14th, the principal papers were those of Mr. F. B. Chapman, of the United States, on Museum Collections of Birds; Dr. Dwight, of the United States, on colour changes due to abrasion; Dr. Leverkühn, of Bulgaria, on the nesting of the Egyptian Vulture and the Imperial Eagle; Herr Otto Herman on Bird-Migration; Mr. Pycraft on Nestling Birds and their relation to evolution; and Padre Ernesto Schmitz, of Madeira, on the Birds of that island.

A conversazione was held in the evening at the Natural History Museum, South Kensington. Thursday, the 15th, was occupied by a visit to Tring, the country seat of the Hon. Walter Rothschild, whose Museum is one of the finest private establishments in the world. The host lectured on "Extinct and Vanishing Birds," illustrated by specimens contained in his collections.

On the 16th, Mr. Bonhote, of Cambridge, England, read a paper on the hybridisation of Ducks; Dr. Hartert one on the Principal Aims of Modern Ornithology; and Dr. Wilson one on the Birds of the Antarctic. In the afternoon the Lord Mayor of London held a reception at the Mansion House, and in the evening the British Ornithologists' Union entertained the Foreign Members of the Society at dinner at the Frascati Restaurant.

On the 17th, Mr. Bruce read a paper on the Scottish Antarctic Expedition; other papers were also read by Mr. D. Seth-Smith on Aviculture; Dr. Penrose, on behalf of

Herr Svetozar, on the Sparrow and its Economic Value ; Dr. Helm on the Autumnal Migration of the Starling ; and Dr. Dwight on the Significance of Sequence in Moults and Plumages.

At the conclusion of the Sectional Meetings it was decided that the next Congress should be held in Berlin, under the Presidency of Prof. Dr. Reichenow, or if found impossible to carry out the proposal, then at Brussels with Dr. Alphonse Dubois as President.

On Monday 19th, Woburn Park, the seat of the Duke of Bedford, was visited, and his Zoological Gardens inspected. On the 20th, Cambridge was the objective of an excursion, the visitors being entertained at luncheon at Magdalene College. On Wednesday, the 21st, the well-known Bird Cliffs at Flamborough and Bempton in Yorkshire were seen, and the cliff-climbers, who collect a rich harvest of the eggs of the Guillemot and Razorbill, observed at work.

With these three semi-official visits was terminated a most successful meeting. It is impossible within the limits of these columns, and difficult in the face of the production of so much brilliant, interesting, and instructive information made public at this memorable gathering, to refer at any length to the more salient features of the papers which attracted the greatest attention. Perhaps, however, mention may be made of Mr. Pycraft's suggestive lecture, which indicated that all birds were primarily arboreal and nidifugous, that these primary habits had modified in the course of evolution in two marked lines, the young of the arboreal nesting birds becoming more and more helpless, whilst the young of the non-arboreal ground-nesting birds become similarly more and more independent immediately after leaving the shell of the egg.

Mr. Chapman's remarks on the value of a Museum Collection of Birds is also well worth study, the maximum of adequate public exhibition, coupled with the greatest facility for work and research by students, being the ideal of the objects which should be aimed at by the controllers of any Natural History Institution. Mr. Seth-Smith's paper

on Aviculture, indicating the important observations which may be made in connection with changes of plumage, moult, and nesting-habits on birds kept in captivity, is also of great value.

The House Sparrow was finally condemned, and the edict is out against him.

The Congress was an unqualified success.

SHORT NOTICES.

(1) IN the 'Avicultural Magazine,' new series, vol. ii. (1904) p. 94, appeared an interesting article by Capt. Boyd Horsbrugh, A.S.C., entitled "Some Field Notes in South Africa." The paper gave an account of some species of Birds met with during two years' travelling in the Western Transvaal.

(2) ATTENTION may be directed to an instructive paper by Mr. W. L. Selater entitled "Nature Study for South Africa," read before the South African Association for the Advancement of Science at its Meeting in Johannesburg in 1904, and recently published in the Reports of that Society.

(3) THE fourth volume of Shelley's 'Birds of Africa' [The Birds of Africa, comprising all the Species which occur in the Ethiopian Region. By G. E. Shelley, F.Z.S., F.R.G.S., etc.] was published in two parts in 1905. It need hardly be stated that this is a most important and valuable work. It deals with the Ploceidæ (Weaver-Birds), which the author divides into three subfamilies: Viduinæ, Estrildinæ, and Ploceinæ.

The first part of vol. iv. describes the two first-named groups, the Viduinæ being credited with seven genera and fifty-five species and the Estrildinæ with sixteen genera and one hundred and twelve species. The Ploceinæ, which form the subject of part 2, are divided into twenty-five genera

and one hundred and twenty-four species. The "keys" and text are of an exhaustive character and the volume is, as were its predecessors, beautifully illustrated with a large number of coloured plates.

Amongst the species figured are some of considerable interest to South African Ornithologists, such as *Urobrachya affinis* (Natal Fan-tailed Weaver), supposed to be a variety of *U. arillaris* (Red-shouldered Widow Bird), which assumes the form of plumage denoted as that of *U. affinis* when kept in captivity for some length of time; *Anomalospiza rendalli* = *Serinus imberbis* and *Serinus rendalli* (Selater, Fauna of S. Africa, Birds, vol. i. p. 172; vide also Annals S. African Mus. vol. iii. pt. viii. no. 9, pp. 313 & 372); *Lagonosticta rhodopareia* (Heuglin's Ruddy Waxbill), recently added to the South African List (vide Annals S. African Mus. vol. iii. pt. viii. no. 9, pp. 309 & 368); *Ploceipasser pectoralis* (Stripe-chested Weaver-Bird); *Sycobrotus stictifrons* (Spot-headed Weaver Bird); and *Hyphantornis nigriceps* (Black-headed Weaver Bird).

(4) IN the 'Ornithologische Monatsberichte' for September 1905 appears an article by Dr. A. Reichenow on "Three new Species of Seedeaters from North-east Africa."

He describes in detail *Poliospiza erlangeri* (named after the late Carlo von Erlanger), *P. collaris*, and *P. pachyrhyncha*. The specimens from which these birds were described are from Erlanger's collection made during his travels in Africa.

(5) In the same Number of the same Journal Dr. Reichenow further describes a new species from South Africa:—

PLOCEUS TROTHÆ (Rchw.), n. sp.

Similar to *P. rubiginosus*, but with the red-brown of the plumage paler, going over more into yellowish. Collected by General von Trotha in Windhoek, German South-west Africa.

(6) In the November number of the same Journal appears an article by Dr. Reichenow on "Descriptions of new Species." Eleven new species and one new subspecies are described, principally from East Africa and the East African coast.

(7) The 'Proceedings of the United States National Museum,' xxviii. 1905, contains an article by Harry C. Oberholser, F.M.B.O.U., of the United States Biological Survey, on "Birds collected by Dr. W. L. Abbott in the Kilimanjaro Region, East Africa." The paper deals with 256 species, and describes a number of new subspecies and a few new species. It seems to be rather regrettable that the author should alter so many well-known generic names and use such as "*Tachynautes*" for "*Cypselas*," "*Poneropsar*" for "*Spreo*," etc. One or two names used are only new ones for old established species, e. g. "*Lissotis nothophila*" for *L. lorati* (Grant) and "*Acrocephalus rinus*" for *A. macro-rhynchus* (Hume).

(8) IN the 'Journal für Ornithologie' for July 1905, Prof. Dr. E. Vanhöffen, of Kiel, publishes his very interesting "Report on the Birds observed by the German South-Polar Expedition." The following extracts may be of interest to Members:—On the 28th October, at 28° S. lat., the first Cape Pigeon (*Daption capense*) was seen, and on November 5th the first southern member of the Tern family (*Sterna vittata*) was met with, which latter bird remained with the ship till the 16th of the same month, when it was shot. About 200 sea miles from the South African coast, *Prion curvulus* was seen on 22nd November, and when about 120 miles from the Cape the coast birds began to show themselves, becoming more numerous the nearer the vessel approached land. The species were *Sula capensis*, *Larus dominicanus*, a species of Skua, *Phalacrocorax capensis*, and a Tern—probably *Sterna bergiei*. The expedition left Cape Town on 7th December, and on the afternoon of the 8th all

coast birds had disappeared. The ocean birds accompanied the ship the whole way from Cape Town to the Kerguelen Islands. Cape Pigeons were met with in numbers on 23rd December, near the Crozet Isles. On Xmas day a land expedition was organised on the Possession Isles, which resulted in the discovery of two new species—a Duck and a Cormorant—named by Prof. Reichenow *Anas drygalskii* and *Phalacrocorax vanhöffeni* respectively. Heard Island was reached on 3rd February, where fresh batches of Cape Pigeons greeted the expedition. Landing in Corinthian Bay a new species of *Chionis* was discovered—named by Reichenow *C. nasicornis*.—On 7th February the first iceberg was seen. On 22nd February, 1902, in $66^{\circ} 2' 9''$ S. lat. and $89^{\circ} 38'$ E. long., the ship was frozen up for a period of fifty weeks! On 8th February, 1903, the winter-quarters were left behind. On the 31st May, in the neighbourhood of Port Natal, *Sula capensis*, *Lestris antarctica* were seen, also *Majaqueus* and *Thalassogeron*. The author was able, on six occasions, to observe the going and coming of the coast birds of Cape Town—during the months of October, November, December, and August,—and arrives at the conclusion that *Lestris*, *Sula*, *Phalacrocorax*, *Larus dominicanus*, and *Spheniscus* of their own free will hardly wander further than 2° lat. = 120 sea miles from the coast. The ship left Simonstown on 2nd August, 1903, and reached the Elbe on 23rd November, after an adventurous but pleasant trip. The deeply interesting article is illustrated by a clear chart giving the distribution of the sea-birds—*i. e.* the northern and southern limits of the more locally distributed species, as observed by the “Gauss” expedition.

(9) THE October number (1905) of the ‘Journal für Ornithologie’ contains a further contribution to the Bird-fauna of North-east Africa, by the late Carlo von Erlanger. The article is again illustrated by a series of fine plates.

(10) THE October number (1905, part 2, vol. v.) of 'The Emu' contains an interesting article by A. G. Campbell, on "Fruit-eating Birds." He thinks that they are deserving of better treatment than is usually meted out to them. With this part is issued as a Supplement an excellent "Dichotomous Key" to the Birds of Australia.

(11) IN the July (1905) number of 'The Ibis' attention may be drawn to the following articles:—

1. A Contribution to the Ornithology of the Egyptian Soudan, by A. L. Butler, F.Z.S., M.B.O.U., &c., Superintendent of Game Preservation, Soudan Government.—This is a lengthy and most important contribution to African Ornithology. Three hundred and thirty species are referred to, many of which are familiar in the Southern portion of the Continent.
 2. On a small Collection of Birds from the Wadi-en-Natrûn, Egypt, by W. L. S. Loat, F.Z.S.
 3. On further Collections of Birds from the Efulen District of Camaroon, West Africa, by R. Bowdler Sharpe, LL.D., with Notes by the Collector, G. L. Bates.
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(12) IN the October (1905) number of 'The Ibis' the following paper relating to African Ornithology appears:—

On a Collection of Birds from Somaliland, by Harry F. Witherby, with Field-notes by the Collector, Captain A. E. Hamerton, R.A.M.C., D.S.O.—This article describes a collection of skins made by Captain Hamerton whilst on active service with the Somaliland Field Force in 1903-4. A large number of the specimens were obtained in Eastern Somaliland, which is but little known, and the collection, although small, contains several new forms.



Photo by L. E. Taylor, Irene.

Nest and Eggs of ANAS SPARSA (Black Duck).

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XVII.—*The Birds of Irene, near Pretoria, Transvaal.*

By LIONEL E. TAYLOR, F.Z.S., M.B.O.U.

(Plate IV.)

THE following notes, which are the result of two years' close observation of the birds of Irene, may, I trust, be of interest.

The small township of Irene is situated in the Transvaal, 10 miles south of Pretoria, on the main line to Johannesburg (lat. $25^{\circ} 52' \cdot 8$ S., long. $28^{\circ} 13' \cdot 3$ E., altitude 4800 feet). The country presents the usual features of the High Veld, being almost bare of trees, with the exception of a Eucalyptus plantation, a few clumps of scattered Acacias, and the indigenous trees which skirt the river.

The Hennops rivulet passing through the Irene Estate flows in a N.W. direction to the Crocodile River. It is up this comparatively well-wooded water valley which the few subtropical birds, which appear in the following list, make their way. With these few exceptions the birds enumerated are typical High Veld species.

I have confined the list to birds obtained within a radius of four miles from Irene Railway Station, thus excluding the immediate neighbourhood of Pretoria, which, lying almost on the border line of the High Veld and Bush Veld, presents features more closely resembling the latter.

There are no large dams or vleis in the vicinity, and although the Hennops River is a perennial stream, there is a marked absence of water birds and waders.

The Accipitres are poorly represented here, being much more plentiful immediately the range of hills directly south of Pretoria is passed.

My thanks are due to Mr. W. L. Selater and Dr. J. B. Gunning for having assisted me in the identification of those specimens of which I was in doubt.

The numbers prefixed to the species referred to are, where applicable, those given in Selater's "Check-list of the Birds of South Africa" [Annals South African Museum, vol. iii. part viii. no. 9]. The actual specimens referred to by date or in detail are in my own collection. This paper was written mainly in November and December 1905.

2. *CORVUS SCAPULATUS*. (Pied Crow.)

The Pied Crow is fairly common here at times; they usually go about in pairs.

3. *CORVUS CAPENSIS*. (Black Crow.)

(a) ♀ (juv.). 25.12.03. Irene.

In stomach insects.

These birds are more common here than in any other place where I have seen them. They generally are seen in twos or threes. In April 1905 I counted over sixty here in one flock; they were making a most unusual noise, and must, I think, have been migrating. On another occasion, in July 1905, I saw about twenty together. I have seen one of these birds carrying a snake (*Ablabophis rufulus*) in its mouth.

6. *CREATOPHORA CARUNCULATA*. (Wattled Starling.)

The Wattled Starling is a local migrant, appearing at intervals in enormous flocks during the summer. Although I have seen thousands I have never been able to notice a male with an abnormal wattle, as pictured in Stark ('Fauna S. Africa,' Birds, vol. i. p. 23), and such specimens must be extremely rare.

9. SPREO BICOLOR. (Pied Starling.)

The Pied Starling is a very common resident here. They always roost in a flock in the same trees in a plantation on the estate.

17. LAMPROCOLIUS SYCOBIUS. (Peters' Glossy Starling.)

(a) 18.2.04. Irene.

In stomach seeds and berries.

(b) ♀. 26.2.04. Irene.

Fairly common, usually found in small parties.

20. ORIOLUS GALBULA. (Golden Oriole.)

(a) ♀. 12.2.05.

This is the only specimen of the Golden Oriole which I have seen here. It is a rare visitor to the Transvaal.

22. ORIOLUS LARVATUS. (Black-headed Oriole.)

The Black-headed Oriole is a rare bird here and very difficult to get near.

23. HYPHANTORNIS NIGRICEPS. (Black-headed Weaver Bird.)

I have only seen one example of the Black-headed Weaver Bird, which was obtained here by Mr. Shortridge.

25. HYPHANTORNIS VELATUS. (Masked Weaver Bird.)

= *H. mariquensis* (Shelley, Birds of Africa, vol. iv. pp. 399 & 405.)

The Masked Weaver Bird is very common and nests abundantly along the river. The nests are always suspended from a tree over the water, and I have never seen one attached to reeds, although the latter are plentiful. The males assume their breeding-plumage early in September. The young are hatched in November.

33. SITAGRA CAPENSIS OLIVACEA. (Eastern Cape Weaver Bird.)

(a) 29.9.04.

(b) 14.10.04.

The Eastern Cape Weaver Bird is fairly common here. It is usually found along the river, where it either suspends its nest from a bush or builds it amongst the reeds, but I

have found a colony breeding in an isolated tree a long way from water. When perched on a reed these birds keep their tails incessantly moving.

47. *LAGONOSTICTA RUBRICATA*. (South African Ruddy Waxbill.)

(a) ♂. 12.1.04.

The Ruddy Waxbill is common here. They always go about in pairs and are never found far from water.

49. *LAGONOSTICTA RENDALLI*. (Little Ruddy Waxbill.)

(a) ♂. 13.12.03.

(b) ♀. 13.12.03.

(c) ♂. 12.1.04.

(d) ♂. 27.9.04.

The Little Ruddy Waxbill is a very common resident. In summer they are generally found in pairs, and in winter the pairs assemble round buildings and on old cultivated land, where they feed on grass and weed seeds. They never fly in flocks like *Estrilda astrilda* (Common Waxbill).

52. *ESTRILDA ASTRILDA*. (Common Waxbill.)

(a) ♂. 25.1.04.

Very common ; gregarious.

53. *ESTRILDA ERYTHRONOTA*. (Black-faced Waxbill.)

I have only seen three pairs of the Black-faced Waxbill here, all of which were caught by bird-catchers, together with other Waxbills.

55. *ESTRILDA ANGOLENSIS*. (Blue-breasted Waxbill.)

(a) ♀. 8.12.03.

In stomach insects.

The Blue-breasted Waxbill is a common resident, generally seen in pairs or small parties in old cultivated ground or low scrub.

57. *ESTRILDA CLARKEI* (Shelley). (Orange-breasted Waxbill.)

Capt. Shelley separates the Southern form of *E. subflava* from the Northern form under the above name (Shelley,

'Birds of Africa,' vol. iv. part i.). These little "Zebra" Waxbills are exceedingly common here this summer (1904-5), whereas last year I tried in vain to procure a specimen. They feed amongst the short grass round my house in small flocks, and are very tame, allowing one to approach within two or three yards of them in the open, and when frightened they only flit along a few yards.

59. ORTYGOSPIZA POLYZONA. (Bar-breasted Weaver Finch.)

(a) ♂. 20.2.04.

(b) ♀. 20.2.04.

A common resident; gregarious. Generally found in open veld, but never far from water.

65. QUELEA QUELEA. (Red-billed Weaver.)

(a) ♂. 18.1.05.

The Red-billed Weaver is very common here at times, but during a whole year I never saw one. In November 1904 they commenced to nest in colonies, but in no single instance was a nest completed. The nests are small domed structures, usually attached to the lesser branches of stunted willows (*Salix capensis*). One colony commenced to nest at the same time in a dead hedge. It remains to be proved whether these birds are parasitic or not, but I am inclined to think that they use the nests of *Pyromelana oryx sundevalli* (Northern Red Bishop Bird).

67. PYROMELANA ORYX SUNDEVALLI. (Northern Red Bishop Bird.)

The Northern Red Bishop Bird is very common here along the river, where it nests amongst the reeds. Nesting commences in November.

68. PYROMELANA TAHA (Smith). (Taha Bishop Bird.)

(a) ♂. 18.1.05.

There were a few Taha Bishop Birds here last summer, none the year before, and none so far this summer.

75. COLIOPASSER PROCNE. (Great-tailed Widow Bird.)

(a) ♂. 25.12.03.

In stomach seed (oats).

(b) ♀.

The Great-tailed Widow Bird is very common in the open veld and near the river.

76. COLIOPASSER ARDENS. (Red-collared Widow Bird.)

(a) ♂. 11.12.03.

The Red-collared Widow Bird is a very common resident. They are polygamous, and in winter the males, females, and young assemble in huge flocks. I have never seen these birds far from water, and they breed in long grass by the river side. A nest found in March 1905 contained young birds just hatched; it was domed, with the entrance at the side, and built about 2 feet from the ground between tall grass-stems.

77. VIDUA PRINCIPALIS. (Pin-tailed Widow Bird.)

The Pin-tailed Widow Bird is very common.

82. HYPOCHERA FUNEREA AMAUROPTERA. (Steel-coloured Widow Finch.)

(a) ♂. 1.1.04. Bill white.

(b) ♂. 16.1.04. Bill salmon.

(c) ♂. 26.2.04. Bill pinkish.

This species is not uncommon here and is resident. They are very shy, except in winter, when they feed round buildings on small seeds which they obtain by scratching up the ground like a fowl. They go about in small flocks, and the females usually outnumber the males. The bill of this bird varies in colour from white to red, red being the more common. When disturbed they fly high and generally settle on the very top of a tree.

83. PETRONIA PETRONELLA. (South African Rock Sparrow.)

(a) ♂. 23.9.04.

In stomach seeds and insects.

This is the only example of this species which I have seen;

but being very like *Passer griseus* (Southern Grey-headed Sparrow) it might easily be passed over. It was amongst some Acacias right out in the veld.

*84. PASSER MELANURUS. (Cape Sparrow.)

The Cape Sparrow is common here.

All the nests I have seen have been very untidy domed structures, placed in the branches of very thorny trees. I have never seen a nest in a hollow of a tree.

Reichenow (Vög. Afr. iii. p. 233) adopts the older name of "*melanurus*" in place of "*arcuatus*" for this species.

*86. PASSER GRISEUS. (Southern Grey-headed Sparrow.)

(a) ♂. 13.11.03.

In stomach seeds.

The Southern Grey-headed Sparrow is very common here, more so than *P. melanurus*. It nests in the hollow of a tree. Reichenow (Vög. Afr. iii. p. 230) has adopted the older name of "*griseus*" in place of "*diffusus*."

87. POLIOSPIZA GULARIS. (Streaky-headed Seed-eater.)

(a) ♂. 26.12.03.

(b) ♂. 2.1.04.

In stomach seeds.

The Streaky-headed Seed-eater is a common resident; in winter generally found in company with other Seed-eaters. They are tame birds, easily caught, and make good songsters in an aviary.

*91 & 92. ANOMALOSPIZA IMBERBIS. (Von der Decken's Seed-eater.)

= *Crithagra rendalli* (Tristram, Ibis, 1895, p. 129).

= *Serinus rendalli* (Rendall's Seed-eater).

I obtained what I am sure was an example of this Seed-eater in Nov. 1904, but unfortunately the skin was destroyed by a cat before I could compare it with other skins. I have seen other specimens obtained near Johannesburg.

Capt. Shelley has pointed out in his 'Birds of Africa,' vol. iv. p. 108, that the two type specimens of *Serinus*

rendalli obtained by Dr. Rendall should be placed in a new genus, which he calls "*Anomalospiza*."

93. *SERINUS ICTERUS*. (Eastern Yellow Seed-eater.)

(a) ♀. 21.1.04.

In stomach seeds.

The Eastern Yellow Seed-eater is a very common resident, congregating in flocks during the winter, and mixing freely with *S. angolensis* (Black-throated Seed-eater).

98. *SERINUS ANGOLENSIS*. (Black-throated Seed-eater.)

The Black-throated Seed-eater is a very common resident here. During the winter they collect in small flocks and mix freely with the preceding species.

[*99. *ALARIO ALARIO*. (Mountain Canary.)

(a) ♂. 19.5.04.

I think that it is most likely that the specimen which I obtained here had escaped from captivity. Although Distant records it from Pretoria, I do not think its range extends as far north as the Transvaal, and probably the one which he obtained had also escaped from captivity, as they are very favourite cage-birds.]

101. *EMBERIZA FLAVIVENTRIS*. (Golden-breasted Bunting.)

(a) 2.1.04.

(b) 21.1.04.

The Golden-breasted Bunting is resident but not plentiful. I have shot specimens on the top of a high *Acacia* tree and on telegraph-wires, and I have seen them more often perching on trees than on the ground or on rocks.

*103 B. *FRINGILLARIA CAPENSIS REIDI*. (Natal Bunting.)

(a) ♂. 20.3.04.

I have only seen one specimen of this Bunting here.

104. *FRINGILLARIA TAHAPISI*. (Rock Bunting.)

(a) ♂. 12.1.04.

The Rock Bunting is plentiful on rocky ground where there is any scrub, on the lower branches of which they perch and utter a pleasant note.

105. FRINGILLARIA IMPETUANI. (Lark Bunting.)

(a) ♂. 15.9.03.

The Lark Bunting is perhaps the commonest of the Buntings here, frequenting rocky open ground.

107. PYRRHULAUDA VERTICALIS. (Grey-backed Lark.)

(a) ♂. 19.5.04.

(b) ♀. 19.5.04.

In stomach seeds.

The Grey-backed Lark is not uncommon here, but seems to be confined to one particular place where the veld is open and stony.

119. MIRAFRA AFRICANA. (Rufous-naped Lark.)

(a) ♂. 6.12.03.

The Rufous-naped Lark is very common here in open veld, and is generally found in pairs.

125. SPIZOCORYS CONIROSTRIS. (Pink-billed Lark.)

(a) ♂. 10.2.04.

In stomach seeds.

This Lark is fairly common in the open veld. It is easily recognized by its short tail and quick movement of the wings as it ascends vertically in the air, often to a great height.

126. TEPHROCORYS CINEREA. (Red-capped Lark.)

The Red-capped Lark is a very common resident here. In the winter they collect in flocks.

*131. CETHILAUDA SEMITORQUATA. (Grey-collared Lark.)

(a) ♂. 18.4.04.

In stomach insects and seed.

I have only seen one pair of the Grey-collared Lark here.

The specimen which I procured, and which Mr. Selater has kindly compared with others in the S. A. Museum, differs most strikingly from other specimens which I procured at Hanover, C.C. The length of a Hanover ♂ is 9'' and an Irene ♂ 6 $\frac{7}{8}$ '' . The bill of the latter is very much shorter, the feathers of the back have no shaft-stripes, and the general colour is totally different.

*134. *CERTHILAUDA ALBOFASCIATA*. (Rufous Long-billed Lark.)

(a) ♂. 29.12.03.

The Rufous Long-billed Lark is very common here in open veld.

In this species, as in the last, there is a great variation both in size and colour between those obtained here and at Hanover, C.C.

135. *MACRONYX CAPENSIS*. (Orange-throated Long-claw.)

(a) ♀. 29.12.03.

Not plentiful just here, but very common in neighbourhood.

141. *ANTHUS TRIVIALIS*. (Tree Pipit.)

(a) ♂. 12.12.03. Iris dark brown. Bill: upper mandible dark brown, lower mandible light brown. Legs light brown.

(b) ♂ (?). 18.1.04.

(c) ♀. 18.1.04.

The Tree Pipit is a very rare migrant here. The first one I shot from a pair which rose from the ground and settled on a willow tree. My attention was attracted to them by their note, which is unlike that of any other Pipit. The last two I shot within 50 yards of where I had shot the first one six weeks previously.

The only reported occurrences of this Pipit south of the Zambesi are by Wahlberg, on the Limpopo between 25° and 26° S. lat., and by Jameson, on the Tatin River in 1880.

143. *ANTHUS NICHOLSONI*. (Nicholson's Pipit.)

(a) ♂. 29.12.03.

This is the commonest of the Pipits here. It is resident and frequents open stony veld where the grass is short.

143A. *ANTHUS VAALENSIS*. (Vaal River Pipit.)

(a) ♂. 18.4.04.

Mr. W. L. Selater has compared this specimen with others in the South African Museum and considers that it is referable to Capt. Shelley's new species *A. vaalensis* ('Birds of Africa,' vol. ii. p. 311).

This species seems to replace *A. pyrrhonotus* (Cinnamon-backed Pipit) here, which it more closely resembles than *A. nicholsoni* (Nicholson's Pipit). I have only observed it during the winter, when it is common. Last year a large number arrived in April and they were mostly in pairs.

149. *MOTACILLA CAPENSIS*. (Cape Wagtail.)

The Cape Wagtail is very common everywhere.

164. *CINNYRIS AMETHYSTINUS*. (Black Sunbird.)

(a) ♀. 18.2.04.

In stomach insects.

These birds are local migrants here, appearing at intervals during the summer.

I have seen the males in their breeding-plumage in October. During Feb. 1904, when there were a lot here, none of the males were in their breeding-plumage, but some of them seemed to be just getting it.

174. *ZOSTEROPS VIRENS*. (Green White-eye.)

(a) 22.12.03.

The Green White-eye is very common and resident.

These birds when feeding often congregate in large numbers on the same tree, generally close to water.

*177 A. *PARUS CINERASCENS*. (Grey Tit.)

(a) ♂. 16.2.04.

Not common. A pair nested in a hollow in a willow tree here last year: the hen bird, when sitting, is extremely pugnacious, and shows her resentment at being disturbed, in the same way as the European Tits, by puffing out her feathers and hissing, and it is with the greatest difficulty that she can be dislodged.

The Tits found here are referable to *P. cinerascens* and not *P. afer* (Black-breasted Tit), as pointed out by Dr. Sharpe ('Ibis,' 1904, p. 342), being blue-grey above and below.

184. *LANIUS COLLARIS*. (Fiscal Shrike.)

The Fiscal Shrike is very common wherever there are trees or bush.

187. *LANIUS COLLURIO*. (Red-backed Shrike.)

The Red-backed Shrike is fairly common here during the summer, arriving in November. In 1903 they were much more plentiful than in 1904.

189. *NILAUS BRUBRU*. (Brubru Shrike.)

(a) ♂. 26.12.03.

In stomach insects and caterpillars.

The Brubru Shrike is not a common bird here. It frequents Acacia trees.

191. *TELEPHONUS SENEGALUS*. (Black-headed Bush Shrike.)

(a) ♂. 16.4.04.

In stomach caterpillars, grasshoppers, and other insects.

(b) ♀. 16.4.04.

The only ones I have seen here, although I have seen two other pairs nearer Pretoria. They seem to always go in pairs and frequent thick bush. The tail is spread out when flying and they very much resemble *Sphenæacus natalensis* (Natal Grass-bird), although they are, of course, much larger.

195. *DRYOSCOPIUS CUBLA*. (Lesser Puff-back Shrike.)

The Lesser Puff-back Shrike is rare here.

*196 A. *DRYOSCOPIUS RUFIVENTRIS HYBRIDUS*. (Northern Puff-back Shrike.)

(a) 2.2.04.

In stomach insects and Acacia seed.

Not very common, only found in thick bush and more often heard than seen.

Reichenow (Vög. Afr. ii. p. 583) distinguishes this northern subspecies of *D. rufiventris* (Greater Puff-back Shrike), having the underparts pale ochreous colour, under the name of *D. rufiventris hybridus*. In comparing specimens shot here with those obtained in Cape Colony the former seem to be referable to this subspecies.

200. *LANIARIUS GUTTURALIS*. (Backbakiri Shrike.)

There are only a few pairs here, but they are very common near Pretoria.

219. *PYCNONOTUS LAYARDI*. (Black-capped Bulbul.)

This is one of the commonest birds here. They are very destructive to fruit, but at the same time they eat an enormous number of insects. They are very easily kept in captivity, and the amount of "mealie pap" which they can consume is astonishing. They are very adept at catching flies.

229. *PARISOMA SUBCÆRULEUM*. (Tit Babbler.)

(a) 22.1.04.

Fairly common. They have the prettiest note of any bird I have heard here.

233. *SYLVIA SIMPLEX*. (Garden Warbler.)

(a) ♂. 12.12.03.

The Garden Warbler is a common visitor here in the summer.

234. *PHYLLOSCOPUS TROCHILUS*. (Willow Wren).

The Willow Wren is fairly common here during the summer, arriving in November.

238. *ACROCEPHALUS BÆTICATUS*. (African Reed Warbler.)

(a) ♂. 12.12.03.

The African Reed Warbler is fairly common amongst reeds along the river.

239. *ACROCEPHALUS SCHÆNOBÆNUS*. (Sedge Warbler.)

(a) 4.1.04.

I have seen several Sedge Warblers amongst the rushes in the river, but they are difficult to procure, being very shy and only coming out from thick rushes towards dusk. They are rare migrants in the Transvaal.

248. *EREMOMELA FLAVIVENTRIS*. (Yellow-bellied Bush Warbler.)

(a) 7.6.05.

This is the only specimen of the Yellow-bellied Bush Warbler I have seen here.

251. EREMOMELA USTICOLLIS. (Brown-throated Bush Warbler.)

I have only procured one specimen of the Brown-throated Bush Warbler here. It was creeping about in search of insects in the topmost branches of an Acacia tree.

269. PRINIA MYSTACEA. (Tawny-flanked Wren Warbler.)

(a) 21.11.03.

(b) ♂. 30.12.03.

The Tawny-flanked Wren Warbler is a common resident here and frequents the long grass and scrub near the river.

270. PRINIA FLAVICANS. (Black-chested Wren Warbler.)

(a) 24.12.03.

The Black-chested Wren Warbler is a common visitor here during the summer only.

It is always found in trees.

273. CISTICOLA ABERRANS. (Smith's Grass Warbler.)

(a) ♂. 11.12.03.

Smith's Grass Warbler is common here. It frequents long grass and scrub, generally near the river.

278. CISTICOLA TINNIENS. (Levaillant's Grass Warbler.)

(a) ♂. 30.12.03.

This is the commonest of the Grass Warblers here and is usually found amongst the reeds and long grass along the river. Its nest is a small domed structure attached to reeds and tall grass about 3 feet from the ground.

279. CISTICOLA TERRESTRIS. (Wren Grass Warbler.)

(a) ♂. 11.2.04.

The Wren Grass Warbler is common in open veld. It nests during the winter months in tufts of grass on the ground.

292. SPHENEACUS NATALENSIS. (Natal Grass-bird.)

(a) ♀. 16.4.04.

This Grass-bird is quite common along the river, but its distribution seems to be somewhat local. It is a very noisy

bird, especially in the morning and evening. A nest found in October 1905 was placed in some reeds close to the water.

294. *TURDUS LITSIPSIRUPA*. (Ground-scraper Thrush.)

(a) ♂. 13.11.03.

The Ground-scraper Thrush is not common. I have never seen more than one pair at a time, generally amongst Acacias by the river.

297. *TURDUS CABANISI* (Cab.). (Cabanis' Thrush.)

(a) 21.5.04.

I have only seen one or two specimens of Cabanis' Thrush here.

298. *TURDUS LIBONIANUS*. (Kurrichaine Thrush.)

(a) ♀ (juv.). 23.5.04.

In stomach caterpillars, beetles, and fruit-seeds.

The Kurrichaine Thrush is not common here; one pair is usually to be found amongst the Acacias near the river.

304. *MYRMECOCICHLA FORMICIVORA*. (Ant-eating Chat.)

The Ant-eating Chat is very common all over the veld.

305. *MYRMECOCICHLA BIFASCIATA*. (Buff-streaked Chat.)

Last year there was a pair of these Buff-streaked Chats close to the railway, but they were so wild I could never get near enough to shoot them.

306. *PRATINCOLA TORQUATA*. (South African Stone-Chat.)

(a) ♀. 2.1.04.

This species is a common resident, generally found near the river.

307. *SAXICOLA MONTICOLA*.

(a) 2.1.04.

Not common here, although plentiful nearer Pretoria.

308. *SAXICOLA PILEATA*. (Capped Wheatear.)

(a) ♀. 19.5.04.

The Capped Wheatear is not a common bird here.

*313 A. SAXICOLA FAMILIARIS GALTONI. (Galton's Chat.)

(a) ♀. 18.4.04.

I have only seen this bird on one occasion; it was on the Pretoria road.

The above example is referable to *S. familiaris galtoni* (Strickl.), Reichenow's Transvaal geographical form of *S. familiaris* (Stephens) (Familiar Chat).

323. COSSYPHA CAFFRA. (Cape Robin Chat.)

Very common here.

328. TARSIGER SILENS. (Silent Bush Robin.)

(a) juv.

The Silent Bush Robin is very common here. They are generally to be seen perching on a conspicuous branch of a tree, from which they continually dart after insects.

This bird is very like *Lanius collaris* (Fiscal Shrike), and, at a distance, the two are difficult to distinguish. It also shares with the Fiscal the liking for bullying other birds, and I have caught dozens of them in a trap-cage, where they could only have gone for the purpose of attacking the call-birds.

331. ERYTHROPYGIA LEUCOPHRYS. (White-browed Ground Robin.)

Mr. Shortridge and I saw a pair of these birds on one occasion here.

340. MUSCICAPA GRISOLA. (Spotted Flycatcher.)

(a) ♀. 21.1.04.

Migrants; common during the summer months, frequenting Acacia bushes, where they can be always seen darting backwards and forwards from the lower branches in search of insects, which they catch on the wing, making at the same time a very audible click with their bills.

All the specimens I shot in January were changing their plumage.

350. PACHYPRORA MOLITOR. (White-flanked Flycatcher.)

(a) ♂. 14.12.03.

Not uncommon amongst thick Acacia bush.

This species is out of place here and they must have come up from the Crocodile River by way of the Hennops River.

354. TERPSIPHONE PERSPICILLATA. (Paradise Flycatcher.)

(a) ♂. 17.12.03.

(b) ♀.

Fairly common resident, but more common during the summer.

355. DICRURUS AFER. (Fork-tailed Drongo.)

(a) ♂. 14.12.03. Iris light brown.

(b) ♀. 14.12.03. Iris dark brown.

Common resident.

357. CAMPOPHAGA NIGRA. (Black Cuckoo Shrike.)

(a) ♀. 2.2.04.

This is a rare bird here. I have only seen two at Irene (both females) and three young birds at the Fountains near Pretoria.

363. COTILE PALUDICOLA. (South African Sand Martin.)

This bird is fairly common and I think resident.

364. COTILE CINCTA. (Banded Sand Martin.)

(a) ♀. 18.3.04.

(b) ? 28.11.05.

This species is very common here during the summer. They often congregate in numbers, and I have obtained several at one shot when they were perched on a tree in company with *Hirundo rustica* (European Swallow).

367. HIRUNDO RUSTICA. (European Swallow.)

Very common : is the latest Swallow to arrive here. This year (1905) it arrived on the 4th November.

369. HIRUNDO ALBIGULARIS. (White-throated Swallow.)

The White-throated Swallow is the first to arrive and is the most common of the Swallows : this year (1905) they came in numbers on the 20th August.

374. *HIRUNDO CUCULLATA*. (Larger Stripe-breasted Swallow.)

The Larger Stripe-breasted Swallow is very common all the summer and breeds here. This year these birds arrived on the 13th September, but last year did not appear before the 16th October, on which occasion they were all on the ground and seemed to be resting after a long flight.

376. *HIRUNDO SEMIRUFA*. (Rufous-breasted Swallow.)

(a) ♀. 28.9.04.

The Rufous-breasted Swallow is a regular visitor; they arrived here on the 26th September this year. They are nearly always in pairs and are by no means common. I noticed a pair of these birds recently catching insects on the ground; it was not a mere chance, as each time the birds were frightened up they returned to the same place and commenced walking about catching the insects. I have never seen any other Swallows do this.

382. *UPUPA AFRICANA*. (South African Hoopoe.)

(a) juv. 4.12.03.

This species is common and I think resident. They are usually seen in small parties amongst the Acacia trees.

388. *CYPSELUS CAFFER*. (African White-rumped Swift.)

Very common here during the summer.

392. *CAPRIMULGUS EUROPÆUS*. (European Nightjar.)

(a) 12.2.05.

The European Nightjar is common here during the summer, but not so plentiful as the next species.

393. *CAPRIMULGUS RUFIGENA*. (Rufous-cheeked Nightjar.)

(a) juv. 28.12.03.

In stomach insects and beetles.

(b) 16.10.04.

These birds are common here during the summer; they are generally found singly or in pairs, but in the evening numbers may be seen flying together in company with *C. europæus* (European Nightjar).

405. MEROPS APIASTER. (European Bee-eater.)

(a) 15.12.03.

The European Bee-eater arrived here this year on the 22nd Oct., and last year on the 15th Oct. They roost every year in the same willow trees, congregating in a large flock towards sunset. They leave their sleeping-quarters soon after sunrise. I have never seen them near these quarters during the day. Several times I have seen a large flock of these birds mobbing a pair of *Buteo desertorum* (Steppe Buzzard) in the evening. At times they may be observed skimming over the water and actually dipping into it like Swallows in the pursuit of insects.

410. MELITTOPHAGUS MERIDIONALIS. (Little Bee-eater.)

The Little Bee-eater is fairly common and resident.

412. CERYLE RUDIS. (Pied Kingfisher.)

(a) ♂. 8.12.03.

In stomach fish.

The Pied Kingfisher is not common here. Usually seen in pairs. It hovers when fishing very much after the manner of a Kestrel.

413. CERYLE MAXIMA. (Giant Kingfisher.)

(a) 10.11.03.

This species is found here either singly or in pairs. Each pair has its own "beat" on the river.

414. ALCEDO SEMITORQUATA. (Half-collared Kingfisher.)

(a) ♂. 4.12.03.

In stomach fish-bone.

This bird is fairly common, and is always to be found along the river.

415. CORYTHORNIS CYANOSTIGMA. (Malachite Kingfisher.)

The Malachite Kingfisher is the commonest of the family here. Just now (Nov.) several young broods are to be seen along the river fully fledged.

418. HALCYON ALBIVENTRIS. (Brown-hooded King-fisher.)

(a) 22.11.03.

This species is not very common here.

438. CAMPOTHERA SMITHI. (Smith's Woodpecker.)

(a) ♂. 18.9.04.

I have only seen Smith's Woodpecker here on two or three occasions, and it is a rare bird. Its note is very loud and harsh.

440. DENDROPICUS CARDINALIS. (Cardinal Woodpecker.)

The Cardinal Woodpecker is not common here, and it is always a shy bird to approach.

443. IYNX RUFICOLLIS. (South African Wryneck.)

(a) 19.2.04. Iris yellowish brown; bill brown; legs greenish.

This is a rare bird here. I have only seen it on two occasions, in Feb. 1904 and Sept. 1905, each time amongst scattered Acacia trees.

It has not previously been recorded* from South Africa during the winter, and although the one which I shot may have been a straggler, I am inclined to think that they may be found in this region all the year round.

447. INDICATOR MINOR. (Lesser Honey-Guide.)

(a) ♀. 20.5.04.

In stomach beeswax and larvæ.

I have only seen one pair of these birds here. From this Colony it has only previously been recorded from Swaziland.

449. LYBIUS TORQUATUS. (Black-collared Barbet.)

(a) ♂. 8.5.04.

In stomach fruit and beetles.

Fairly common; generally seen in pairs, both birds often sitting on the topmost branch of a tree and calling to each other.

* *Vide*, however, Bucknill and Haagner, this Journal, vol. i. no. 2, p. 53.

450. TRICHOLÆMA LEUCOMELAS. (Pied Barbet.)

(a) 21.5.04.

Fairly common.

458. TRACHYPHONUS CAFER. (Levaillant's Barbet.)

(a) ♀. 16.4.04.

In stomach vegetable matter.

This large Barbet is rare here. I have seen it on a few occasions in the trees along the river.

466. CHRYSOCOCCYX CUPREUS. (Didric Cuckoo.)

(a) juv. 27.1.04. Iris greyish brown; bill orange-red; legs dusky.

(b) (c).

This is the commonest bird here during the summer months with the exception, perhaps, of the Weaver Birds. This year they arrived in large numbers on the 22nd Oct., the same day on which the European Bee-eater arrived. Last year they arrived on the 11th Oct. They usually go north in March or earlier, but I have seen a single specimen near here as late as the 18th April.

468. COCCYSTES JACOBINUS. (Black-and-White Cuckoo.)

(a) 6.1.04.

This bird is not very common here. It is very noisy; generally seen in pairs or small parties in Acacia bush near the river. Last year the first ones arrived on the 22nd Oct., and this year I saw them on the 26th Oct.

472. CENTROPUS BURCHELLI. (Burchell's Coucal.)

(a) ♀. 6.2.04.

In stomach insects.

Not common, or at least not often seen; frequenting thick bush along the river. I recently saw one perched on a tree in the open 500 yards from the river; but this is very unusual, as they rarely leave the neighbourhood of water.

491. STRIX FLAMMEA. (Barn Owl.)

(a) ♀. 25.6.04.

Common around farm-buildings. It is said to kill a great number of young pigeons in their nests.

492. *STRIX CAPENSIS*. (Grass Owl.)

This species is not common here. The only specimen met with I found impaled on a barbed-wire fence.

497. *BUBO MACULOSUS*. (Spotted Eagle Owl.)

(a) juv. 13.2.04.

This is the commonest Owl here. They usually nest on stony ground. Two young ones which I took from a nest and kept in captivity became wonderfully tame, and one of them, which was flying at liberty for several months, would come when called and sit on my arm.

504. *FALCO BIARMICUS*. (South African Lanner.)

This has been recorded here twice by my friend Mr. Basil Langford, S.A.O.U.

509. *TINNUNCULUS RUPICOLOIDES*. (Larger Kestrel.)

(a) 3.1.04.

This Hawk is fairly common at times. It is a local migrant.

510. *TINNUNCULUS NAUMANNI*. (Lesser Kestrel.)

(a) ♀. 14.12.03.

In stomach quantity of hunting spiders.

(b) ♂. 16.12.03.

In stomach one grasshopper.

(c) ♂. 16.12.03.

In stomach grasshoppers and hunting spiders.

(d) ♀. 6.1.04.

In stomach grasshoppers.

These Kestrels are migratory ; they are very common here in the summer, always flying in flocks. Their food consists largely of red hunting spiders. It is by far the commonest Kestrel here, although coming at irregular intervals.

530. *ASTURINULA MONOGRAMMICA*. (African Buzzard-Eagle.)

(a) 1.6.05.

This is the only specimen of the African Buzzard-Eagle which I have seen here.

533. BUTEO DESERTORUM. (Steppe Buzzard.)

(a) 30.1.04.

In stomach large number of grasshoppers.

A regular summer visitor. They always frequent the same eucalypt plantation, where they roost close to the roosting-place of *Merops apiaster* (European Bee-eater), which seem to very much resent their presence.

I do not think these birds are so destructive to poultry as is generally supposed, and I have never seen them attempt to clutch chickens, although they have here every opportunity of doing so. The contents of the stomach of the one I shot was crammed full of grasshoppers; the stomach of one which my brother shot recently in the low country contained a lizard and a snake.

534. MILVUS ÆGYPTIACUS. (Yellow-billed Kite.)

This species is an occasional summer visitor.

536. ELANUS CÆRULEUS. (Black-shouldered Kite.)

The Black-shouldered Kite is fairly common and breeds here.

544. ASTUR POLYZONOIDES. (Little Banded Goshawk.)

(a) ♀. 28.5.04.

In stomach mouse.

My attention was called to a pair of these birds by their loud call-notes whilst perched on the topmost branch of a willow tree. When disturbed they flew backwards and forwards amongst the willow trees, both birds calling all the time when on the wing. These are the only two examples which I have seen here.

549. CIRCUS CINERACEUS. (Montagu's Harrier.)

Montagu's Harrier is sparingly distributed here during the summer months.

550. CIRCUS MACRURUS. (Pale Harrier.)

This bird arrives in October, and a few pairs remain during the summer. They are exceedingly destructive to poultry.

555. *GYPS KOLBII*. (Kolbe's Vulture.)

Kolbe's Vulture is common here. It has often been stated, and is popularly believed, that no Vulture will feed on animals killed by lightning; but I have seen 200 birds of this species and 20 *Otogyps auricularis* (Black Vulture) feeding at one time on the carcasses of a flock of 42 sheep which were killed by lightning close to Irene station in the summer of 1903.

558. *OTOGYPS AURICULARIS*. (Black Vulture.)

The only occasion on which I have seen the Black Vulture here was on that referred to in my remarks on the preceding species. The twenty then seen was, I believe, an unusually large number for this species, of which not more than six or seven are usually seen together.

563. *SERPENTARIUS SECRETARIUS*. (Secretary Bird.)

The Secretary Bird is not uncommon here; a pair may be seen on almost every farm. The farmers usually destroy the eggs when found, as they consider the birds destroy the young of game-birds.

578. *CICONIA ALBA*. (White Stork.)

Some White Storks were seen flying near here on the 14th December, 1905. I saw a flock of several hundred on the veld near Kaalfontein, not far from Pretoria, a few days previously.

584. *SCOPUS UMBRETTA*. (Hammerkop.)

The Hammerkop is a common bird, and there are five or six of their massive nests to be seen built in willow trees in the neighbouring plantation.

587. *ARDEA MELANOCEPHALA*. (Black-headed Heron.)

The Black-headed Heron was seen here once by Mr. Shortridge.

588. *ARDEA PURPUREA*. (Purple Heron.)

On one or two occasions I have seen Herons here which were of this species.

591. *HERODIAS GARZETTA.* (Little Egret.)

The Little Egret is seen here occasionally in small flocks.

594. *BUBULCUS IBIS.* (Cattle Egret.)

This bird is not very common here.

598. *NYCTICORAX GRISEUS.* (Night Heron.)

(a) 27.8.04.

The Night Heron is not common, but I have seen them singly, also in twos and threes, in the plantation near the river.

605. *GERONTICUS CALVUS.* (Bald Ibis.)

A well-informed farmer here informs me that these Ibises used to visit his farm before the war.

611. *PLECTROPTERUS GAMBENSIS.* (Spur-wing Goose.)

I have seen Geese flying over here on one or two occasions, and they were, I think, of this species.

620. *ANAS SPARSA.* (Black Duck.)

The Black Duck is found here sparingly. A pair nested on an islet in the middle of the dam here in July 1905; the nest, which contained eleven eggs, was concealed in some rushes and built on the ground about 2 feet above the water. The photograph which forms the accompanying illustration was taken two days before the eggs were hatched.

631. *COLUMBA PHEONOTA.* (Speckled Pigeon.)

This bird is seen here occasionally, but is not common.

635. *TURTUR CAPICOLA.* (Cape Turtle Dove.)

The Cape Turtle Dove is common, but not so plentiful as the next species.

638. *TURTUR SENEGALENSIS.* (Laughing Dove.)

The Laughing Dove is very common.

639. *CENA CAPENSIS.* (Namaqua Dove.)

This Dove is very common, more especially during the summer.

646. *PTEROCLERUS NAMAQUA*. (Namaqua Sandgrouse.)

(a) 24.12.03.

A very uncertain visitor; there were only a few here in the summer of 1903-04, and they frequented the same pond for some months. This year I have only seen one lot flying over.

647. *FRANCOLINUS COQUI*. (Coqui Francolin.)

(a) 15.6.05.

I have only shot one of these Francolins here, and they are not so common as the Redwing.

650. *FRANCOLINUS LEVAILLANTI*. (Cape Redwing.)

(a) 2.4.04.

Owing probably to persecution during the war these Francolins are not very plentiful just here.

660. *COTURNIX* sp., ? *AFRICANA*. (Cape Quail.)

661. *COTURNIX DELAGORGUEL*. (Harlequin Quail.)

Quail are never common here, and I have not been able to obtain a specimen for identification.

663. *NUMIDA CORONATA*. (Common Guinea Fowl.)

Guinea Fowl are now plentiful on most farms, having been preserved and little shot since the war.

671. *CREX PRATENSIS*. (European Corn Crake.)

(a) ♀. 12.12.03.

The European Corn Crake is a very rare bird here. I have only seen two specimens, both in cultivated "lands." Their flight is weak and they are difficult to flush a second time.

681. *GALLINULA CHLOROPUS*. (Moor-Hen.)

(a) 27.11.05.

There are a few Moor-Hens on the dam here.

688. *TETRAPTERYX PARADISEA*. (Blue Crane.)

This handsome bird is fairly common and breeds on all the adjoining farms.

692. OTIS AFROIDES. (White-quilled Knorhaan.)

Found here sparingly.

696. OTIS CAFRA. (Stanley's Paauw.)

I have seen a pair of Stanley's Paauw on two occasions on the adjoining farm. The owner of the farm tells me that they breed there every year. In the winter they "trek" to the Bush Veld.

699. OTIS CÆRULESCENS. (Blue Knorhaan.)

The Blue Knorhaan is the commonest of the family here, and having been preserved since the war it is on the increase.

701. OTIS KORI. (Gom Paauw.)

This fine bird is said to pass through here every year about May in numbers, as many as 30 having been seen together, evidently "trekking" from the cold High Veld to the warmer Bush Veld.

702. ŒDICNEMUS CAPENSIS. (Dikkop.)

The Dikkop is fairly common, but is more often heard than seen.

703. ŒDICNEMUS VERMICULATUS. (Water Dikkop.)

I only know of one specimen of the Water Dikkop having been found here, but it may be fairly common, as, on account of its nocturnal habits, it is seldom seen.

705. CURSORIUS RUFUS. (Burchell's Courser.)

(a) 18.2.04.

These birds are only to be seen here during the winter, and generally only after the grass has been burnt, although I have seen one lot in November.

When disturbed they always circle round, sometimes at a great distance, but alight again on almost the same spot from which they arose. They associate in small flocks with *C. temmincki* (Temminck's Courser).

706. CURSORIUS TEMMINCKI. (Temminck's Courser)

Temminck's Courser is common at times; it has the same habits as the preceding species.

711. *GLAREOLA MELANOPTERA*. (Nordmann's Pratincole.)

An occasional visitor here. I have only seen them on the 23rd and 24th November this year.

719. *HOPLOPTERUS ARMATUS*. (Blacksmith Plover.)

A rare visitor here during the winter after the grass has been burnt.

720. *STEPHANIBYX CORONATUS*. (Crowned Lapwing.)

A small flock of Crowned Plover remained here during most of last winter. Their harsh notes could be heard at a great distance on bright moonlight nights.

728. *ÆGIALITIS TRICOLLARIS*. (Three-banded Plover.)

Very common.

741. *TOTANUS GLAREOLA*. (Wood Sandpiper.)

I have only shot one specimen of this species here.

744. *TOTANUS HYPOLEUCUS*. (Common Sandpiper.)

I have only seen the Common Sandpiper here once, on the 25th November, 1905.

752. *GALLINAGO NIGRIFENNIS*. (Ethiopian Snipe.)

The Ethiopian Snipe is rare here.

811. *PODICIPES CAPENSIS*. (Cape Dabchick.)

(a) 5.10.04.

The Cape Dabchick is found sparingly on a dam on the river here. I have never seen more than a single pair at one time, but should one of a pair be shot its place is soon filled by another.

Since writing the above notes in November 1905 I have been able to add a few more species to the list, making a total of over 170 in all up to date (March 1906).

ANTHUS TENELLUS. (Golden Pipit.)

(a) ♂. 15.1.06.

This specimen was fully described in this Journal, vol. ii. no. 1, p. 40. It is not in the check-list and is new to South Africa south of the Zambesi.

576. ABDIMIA ABDIMIL. (White-bellied Stork.)

Several hundred of these birds visited Irene at end of January and remained for about a week. During the day-time they flew to adjacent farms, but always returned to roost here in the evening on the Acacia trees. The presence of these birds in such large numbers was probably due to the fact of the presence in the neighbourhood of large flights of locusts.

*5. BUPHAGA ERYTHORHYNCHA. (Red-billed Oxpecker.)

Three of these birds were seen by my brother and myself in January 1906. The occurrence of these birds in the High Veld is apparently unusual, as they are, properly, a low-country species.

XVIII.—*Notes on a Collection of Birds made in North-east Rhodesia by Dr. F. E. Stoehr.* By Dr. F. E. STOEHR and W. L. SCLATER, M.A., F.Z.S., Director of the South African Museum, Cape Town.

THIS collection was made by the first-named author between July 1903 and October 1905 whilst acting as Medical Officer to the Geodetic Survey engaged in completing the triangulation between Rhodesia and Lake Tanganyika.

The work of the survey commenced at Feira, which is situated on the north bank of the Zambesi, at its confluence with the Loangwa. Here, or in the immediate neighbourhood, the greater number of the birds mentioned in the list were collected. During the latter half of 1905, however, from July onwards, Dr. Stoehr was in the neighbourhood of Mpika and Serenji, about 200 miles north of the Zambesi, and about 100 miles west of Fort Jamieson, the headquarters of the administration of North-east Rhodesia, and it was in this region that most of the birds not mentioned in the 'Check-list of the Birds of South Africa' (1905) were met with.

In the list which follows, 249 species are recorded, and

specimens of all these, with the exception of 28, have been sent to the South African Museum and there identified.

The list is arranged in accordance with the "Check-list of the Birds of South Africa," recently published by Selater (Annals S. A. Museum, Part viii. No. 9), and the numbers prefixed correspond to the numbers in that list.

Dr. Stoehr is responsible for the notes on the habits, Selater for the notes in square brackets and for the identification of the birds.

The country is nearly all bush-covered, sometimes thickly, more often moderately open; it is very dry in the dry season, there being few perennial streams, and even the Loangwa can be crossed knee-deep in September and October.

1. *CORVULTUR ALBICOLLIS*. (White-necked Raven.)

(a). Nr. Feira.

Every hill has its pair, rarely more than one. One day in May 1905 I saw a concourse of seventeen or more of these birds. They had not, so far as I could make out, been attracted by any carrion. For half an hour or so they indulged in flights all together, during which some of them would wheel and circle, seeming to show off. Then they would perch on the rocks and presently fly again. They were silent all the time.

2. *CORVUS SCAPULATUS*. (Pied Crow.)

One day in August 1903 a pair of these birds came down to the sands of the Loangwa. They were chased away with much noise by a pair of the Ringhals (*C. albicollis*) which frequented the same sands. I have never seen them since.

4. *BUPHAGA AFRICANA*. (Yellow-billed Oxpecker.)

I have not seen this bird, but once when we were following the spoor of some Sable Antelope to the south of the Zambesi we heard a loud bird-call; the "boys" said "that is their bird." We went in the direction, and sure enough we saw the Sables. We hunted them, but failed to get one. Coming back about mid-day we heard the call again, and on going in the direction we came on a little herd of four cow

Sables standing in the shade and entirely off their guard. The incident seems worth relating, because in this case the bird acted a part directly opposed to its reputation. I have never met with the bird since and do not think it can be common.

The "Go-away Bird" (*Schizorhis concolor*) (Grey Lourie) has a bad name, but I have no cause to complain of him myself. An undoubted nuisance is the Honey-Guide (*Indicator*), which sometimes follows one very persistently, and the only thing to be done is to send a boy to give him his honey.

7. AMYDRUS MORIO. (Red-winged Starling.)

(a). No loc.

Occasionally on the hills, and I have also seen it frequenting big baobab-trees.

10. LAMPROTORNIS MEVESI. (Meves' Glossy Starling.)

(a) ♂. Feira, July '03. Stomach insects.

Common on the moderately open flats near the Zambesi and Loangwa. It gets its food on the ground and has a harsh screeching cry.

17. LAMPROCOLIUS SYCOBIUS. (Peters' Glossy Starling.)

(a) ♂. Feira, Feb. '04. Iris orange-yellow.

Frequents much the same localities as the preceding species.

19. CINNYRICINCLUS VERREAUXI. (Verreaux's Glossy Starling.)

(a) ♂. Boundary, Oct. '03.

(b) ♀. George's Ferry, Feb. '04.

(c) ♂. Kanyani, Mar. '05.

(d) ♀. Mpika, Oct. '05. Iris brown, with a bright yellow outer ring at the corneo-sclerotic junction.

(e) ♂. Serenji, Oct. '05.

Where tall trees are found (*i. e.* near water) this bird frequents the tops of them, but it also visits very dry country.

21. *ORIOLOUS NOTATUS*. (Andersson's Oriole.)

(a) ♂ adult, Kanyani, Feb. '04. Iris red; bill dull red; feet grey. Testes small. Buds of acacia in stomach.

(b) (c) ♀, ad.? George's Ferry, Feb. '04.

(d) ♂ juv. Serenji, Sept. '05.

(e) ♀. Mpika, Oct. '05.

[The only male adult bird procured by Dr. Stoehr is certainly an example of *O. notatus*, and I believe that all the other Yellow Orioles, females and young, are likewise referable to the species. *O. auratus* is reported from the Zambesi Valley by Alexander; possibly he has confused this species with *O. notatus*, which it closely resembles.]

Appears in January. Only a few of the birds are pure yellow; by far the greater number have spotted breasts. The adults are very wary. They frequently utter a loud mewing call, but I never heard a clear whistle.

22. *ORIOLOUS LARVATUS*. (Black-headed Oriole.)

(a). Opposite Feira, Oct. '03.

Frequents thick bush and big trees near water.

23. *HYPHANTORNIS NIGRICEPS*. (Black-headed Weaver Bird.)

(a). Korasisi, Sept. '04. Iris orange; bill black; legs and feet brown.

(b-e) 3 ♂, 1 ♀. Kanyani, Mar. '05.

24. *HYPHANTORNIS CABANISI*. (Cabanis' Weaver Bird.)

(a) ♀. Kanyani, Feb. '05.

(b-d) 2 ♂, 1 ♀. Johnson's, Mar. '05.

27. *HYPHANTORNIS AURICAPILLUS*. (Shelley's Weaver Bird.)

(a-d) ♂. Feira, Dec. '03, Feb. '04.

(e). Loangwa, Apr. '05.

At Feira *H. auricapillus* was very common. Further north, along the Loangwa, I found plenty of *H. nigriceps*. It builds in reed-beds, one nest being generally attached to the tall reeds, but sometimes it is suspended from a branch

overhanging the water. *H. cabanisi* seemed nowhere common, and to resemble *H. auricapillus* in habits, building in trees.

30. SITAGRA OCULARIA. (Smith's Weaver Bird.)

(a) ♀. Ulungu, May '05.

33. SITAGRA CAPENSIS OLIVACEA. (Eastern Cape Weaver Bird.)

(a). Ulungu, Apr. '05.

37. ANAPLECTES GURNEYI. (Gurney's Weaver Bird.)

(a) (b). Chiromwe, Oct. '03.

(c) juv. Korasisi, Sept. '04.

(d) ♂ juv. Serenji, July '05.

Occurs singly and is not common. Early in January I saw a few building.

[These specimens are all somewhat intermediate between *A. rubriceps* (Red-headed Weaver Bird) and *A. gurneyi*. The latter does not appear to be a very distinct form and is hardly recognized by Shelley. One of the examples from Chiromwe has the most black about the ear-coverts and front of the face and is nearest to the true *A. gurneyi*.]

41. PLOCEIPASSER MAHALI. (White-browed Weaver Bird.)

(a). Between Tette and Chilwa on the Zambesi, June '03.

(b). Boundary, Oct. '03.

(c) (d). George's Ferry, Feb. and Mar. '04.

A common species.

44. PLOCEIPASSER PECTORALIS. (Stripe-chested Weaver Bird.)

(a) (b) ♀. Ulungu, June '05. Iris light or red : bill white or horny.

[A rare species; previously obtained only once, on the Cunene River in Angola by Van der Kellen.]

45. PYTELLA MELBA. (Southern Red-faced Weaver Finch.)

(a) ♂. Opposite Feira, Sept. '03.

Common in thickets.

48. LAGONOSTICTA JAMESONI. (Jameson's Ruddy Waxbill.)

(a) ♂. Ulungu, May '05.

Fairly common.

49. LAGONOSTICTA RENDALLI. (Little Ruddy Waxbill.)

(a) (b) ♂ ♀. No locality.

Hops about every village.

50. LAGONOSTICTA NIVEOGUTTATA. (Peters' Ruddy Waxbill.)

(a) (b) (c). ♂, 2?. Ulungu Nov. '04. Iris dark brown.

Common on the Ulungu stream, which runs into the Loangwa, but I have only once seen it elsewhere. Generally in thick bush. It is, I believe, the bird which sings with a soft whistle "*wh-wh-wh-wh-whwo.*"

55. ESTRILDA ANGOLENSIS. (Blue-breasted Waxbill.)

(a). No loc.

Often found with *Lagonosticta rendalli*.

57. ESTRILDA CLARKEI. (Orange-breasted Waxbill.)

(a-d) 3 ♂, 1 ♀. Loangwa, Nov. '04.

Found in the reeds along the river.

62. SPERMESTES NIGRICEPS. (Rufous-backed Weaver Finch.)

(a) ♂. Escarpment nr. Mpika, Oct. '05. Iris dark; bill dark blue-grey; legs leaden grey.

64 A. AMADINA FASCIATA. (Cut-throat Weaver Finch.)

(a) (b) ♂ ♀. George's Ferry, Feb. '04.

(c) (d) ♂ ♀. Nr. Feira, Apr. '05.

Fairly common near Feira. In July I came across a flock of them at a waterhole between the Angwa and Hanjani. Close by was a party of *Ploceipasser pectoralis*, and it struck me that the two species were much alike in manners, flying after each other and sitting all together on a branch, then to their nests and then back again, all with much twittering and excitement without any apparent cause. Their nests, too, were like those of *P. pectoralis* but smaller.

On the Zambesi during the breeding-season they were never in flocks, but in pairs and were very quiet, sitting on a branch for a long time together.

65. QUELEA QUELEA. (Red-billed Weaver.)

(a-c) 1 ♂, 2 ♀. Feira, July '03.

(d-h) 3 ♂, 2 ♀. Kanyani, Mar. '05.

In winter they go in flocks of thousands together. The Zumbo people fancy them for rosettes.

66 A. QUELEA CARDINALIS. (Cardinal Weaver.)

(a) (b) ♂ ♀. Kanyani, Mar. '03.

This bird is moderately common on the flats along the Lower Loangwa, but I have not noticed it on the Zambesi.

[This bird is included in the Check-list, but hardly, perhaps, deserves a place in the South African list. Previously it had not been recorded south of Lake Tanganyika.]

67 A. PYROMELANA ORYX SUNDEVALLI. (Northern Red Bishop Bird.)

(a) ♂. Feira, July '03. Non-breeding plumage.

(b) ♂. Feira, Dec. '03. Changing plumage.

(c-e) 3 ♂. George's Ferry, Feb. '04. Breeding-plumage.

(f) ♀. Kanyani, Mar. '05.

The smaller Red Bishop Bird is found in great numbers on flats, nesting among the reeds. I have seen a native with a sackful of young birds which he had taken in an afternoon.

67 B. PYROMELANA FLAMMICEPS. (Zambesi Bishop Bird.)

(a) ♂. Feira, Dec. '03. In breeding-dress.

(b) Ulungu, May '05. Non-breeding plumage.

71. PYROMELANA CAPENSIS XANTHOMELANA. (Black-thighed Bishop Bird.)

(a) ♀. Ntambwa, Oct. '04.

74. COLIOPASSER ALBONOTATUS. (White-winged Widow Bird.)

(a) ♂. George's Ferry, Feb. '04.

Found along with *Pyromelana oryx sundevalli*, but not in such numbers.

— COLIOPASSER HARTLAUBI (Boc.). (Hartlaub's Marsh Whydah.)

(a) (b) (c) 1 ♂, 2 ♀. Serenji, July '05.

[These birds are in winter dress, and so are difficult to identify with certainty, but judging chiefly by their size I think they must be referable to this species, originally de-

scribed by Bocage from Angola, and subsequently obtained near the northern end of Lake Nyasa. It is not in the Check-list, but is described by Reichenow (Vög. Afr. iii. p. 142) and by Shelley (Bds. Afr. iv. p. 54).

77. *VIDUA PRINCIPALIS*. (Pin-tailed Widow Bird.)

(a) [♀]. Between Tette and Chilwa, June '03.

(b) ♂. Feira, Apr. '04. In non-breeding dress.

Occurs occasionally, but is not common.

79. *VIDUA PARADISEA*. (Paradise Widow Bird.)

(a)(b) 2 ♂ s. George's Ferry, Feb. '04. In breeding plumage.

(c) ♂ juv. No loc.

The male in his breeding-plumage is very conspicuous, as he flies high and perches on tall trees.

80. *HYPOCHERA FUNEREA*. (Black Widow Finch.)

(a)(b) ♂ [♀?]. George's Ferry, Feb. '04. ♂, bill and legs red; ♀?, bill and legs white.

The male is fond of sitting motionless at the top of a tall tree, very often a thorny acacia. The bill is red in most specimens, and I fancy those with a white bill are either females or not in adult plumage.

83. *PETRONIA PETRONELLA*. (South African Rock Sparrow.)

(a)(b). Chiromwe, Oct. '03.

(c) ♂. Kapsuku. Iris and bill brown; legs grey.

(d) ♀. Ulungu, June '05.

Generally distributed, mostly on the wooded hills. They chirp a good deal, but have also a sort of song.

86. *PASSER GRISEUS*. (Southern Grey-headed Sparrow.)

(a)(b). Opposite Feira, Sept. '03.

(c-f) 2 ♂ s, 2 ♀. George's Ferry, Mar. '04.

(g). Ntambwa, June '05.

(h). Ulungu, May '05.

Found almost everywhere, but never in great numbers.

— . *POLIOSPIZA REICHARDI* Reichw. (Reichard's Seed-eater.)

(a)(b) ♂. Ulungu, June, July, '05. Iris and bill brown; legs light brown.

[This species is not in the Check-list. It has previously

been obtained in Nyasaland and British East Africa, and is described and figured by Shelley ('Birds of Africa,' iii. p. 229, pl. 26. fig. 2).]

89 A. SERINUS SHARPEI. (East African Yellow Seed-eater.)

(a). Opposite George's Ferry, Apr. '05.

A single specimen was shot on the bank of the Zambesi, sitting on a thorn-bush.

93. SERINUS ICTERUS. (Eastern Yellow Seed-eater.)

(a). Chiromwe, Oct. '03.

(b) ♀. Ntambwa, Oct. '04.

Occasionally met with on the hills.

98. SERINUS ANGOLENSIS. (Black-throated Seed-eater.)

(a) ♂. Serenji, July '05. Iris brown.

101. EMBERIZA FLAVIVENTRIS. (Golden-breasted Bunting.)

(a) (b). Chiromwe.

(c). Korasisi, Sept. '04.

(d). Chickere, Oct. '05.

(e). Mtimba, June '05.

Found in the hills.

102. EMBERIZA MAJOR ORIENTALIS. (Shelley's Bunting.)

(a) ♂. Chifukungu, Apr. '05.

(b) ♂. Serenji, July '05.

(c) ♀. Ulungu. Bill brown, lighter below; iris brown; legs light brown.

104. FRINGILLARIA TAHAPISI. (Rock Bunting.)

(a) ♂. Chiromwe, Oct. '03.

(b) ♂. Luvia's, near Mpika, Oct. '04.

114. MIRAFRA NIGRICANS. (Dusky Lark.)

(a). Chingombe, May '05. Iris light brown; bill brown; legs grey.

122. MIRAFRA FISCHERI. (Fischer's Lark.)

(a) juv. George's Ferry, Apr. '04.

This is the Lark which makes a cracking noise with its

wings during the rainy season, particularly on cloudy days. The specimen procured was probably a young bird, as it was indulging in very short flights, but, as a rule, they fly high and drop a long way off.

—. *MACRONYX FUELLEBORNI*, Reichw. (Fulleborn's Yellow-breasted Long-claw.)

(a) ♂. Serenji, July '05.

[This is a Nyasaland species, differing from *M. croceus* (Yellow-throated Long-claw) only in slightly larger size and darker brown colour. It has been obtained in one or two localities in the highlands to the north of Lake Nyasa, and is described by Shelley (Bds. Afr. iii. p. 9).]

139. *ANTHUS LINEIVENTRIS*. (Stripe-bellied Pipit.)

(a) ♂. Chiromwe, Oct. '03.

(b) ♀. Palnohwe, Aug. '04.

(c) ♂. Lushinga Hill, Nov. '04.

(d). Malagulo, Serenji, Aug. '05.

(e) ♂. Lavunsi, near Serenji, Sept. '05.

I have always met with this Pipit in the hills near rocks. It does not particularly frequent the neighbourhood of water.

144. *ANTHUS PYRRHONOTUS*. (Cinnamon-backed Pipit.)

(a) ♂. Serenji, July '05.

145. *ANTHUS RUFULUS*. (Lesser Tawny Pipit.)

(a) ♂. Zumbo, Sept. '03.

This Pipit is found on the open flats, and is common there, but one sees very little of it until the grass is burnt.

147. *MOTACILLA VIDUA*. (African Pied Wagtail.)

(a) ♀. Karoka's, near Mpika, Aug. '05.

Quite common.

150. *MOTACILLA CAMPESTRIS*. (Ray's Yellow Wagtail.)

(a) ♀. Feira, Nov. '03.

This Wagtail comes with the rains and is always in flocks, whereas *M. vidua* is solitary or in small parties.

151. *MOTACILLA FLAVA*. (Blue-headed Wagtail.)

(a) ♂. Dambo, near Kanyani, Mar. 3rd, '05.

[This individual, which was met with in a flock of

M. campestris, has a very pale crown and forehead, becoming almost white in front. It is far paler than any other example of the species in the South African Museum, and is probably referable to *M. flava beema* of the Eastern Palearctic Region.]

154. *SALPORNIS SPILONOTUS SALVADORII*. (African Spotted Creeper.)

(a). BC₃, May '04.

(b). Ulungu, June '05.

On the hill from which I write I see these birds every day. They run up a tree-trunk with amazing speed, reach the top and fly off to another tree. The marvel is how they get anything to eat while going so fast.

169. *CINNYRIS LEUCOGASTER*. (South African White-breasted Sun-bird.)

(a). No loc.

162. *CINNYRIS CHALYBEUS*. (Lesser Double-collared Sun-bird.)

(a) ♂. Chifukungu, Apr. '04.

163. *CINNYRIS GUTTURALIS*. (Scarlet-chested Sun-bird.)

(a) ♂. Feira, July 03.

(b) ♂. Mpika, Sept. '05.

(c-e) ♂. Ulungu, June '05. In transition plumage and young birds.

166. *CINNYRIS KIRKI*. (Kirk's Sun-bird.)

(a) ♂. Feira, Aug. '03.

(b) ♀. George's Ferry, Feb. '04.

173. *ZOSTEROPS ANDERSSONI*. (Andersson's White-eye.)

(a) ♂. Opposite Feira, Sept. '03.

(b-d). Chiromwe, Oct. '03.

(e) ♀. Korasisi, Oct. '04.

(f) (g) ♀. Serenji, June, Oct. '05.

177 B. *PARUS CINERASCENS PARVIROSTRIS*. (Northern Grey Tit.)

(a) (b) ♂. Ulungu, June '05.

(c) (d) ♀. Serenji, Sept. '05.

178. *PARUS PALLIDIVENTRIS*. (Pale-bellied Tit.)

(a) ♀. Palnohwe, Aug. '04.

(b) ♀. Ulungu, June '05.

Not at all common.

—. *PARUS INSIGNIS* (Cab.). (Cabanis' Black Tit.)

(a) ♂. Lavusi, Sept. '05.

[This species is larger and blacker than *P. niger* (Black Tit), and is spread over Tropical Africa from Angola to the Shire highlands and Usegua. It is not in the Check-list, but will be found described in Shelley's 'Birds of Africa,' vol. ii. p. 231.]

180. *PARUS NIGER XANTHOSTOMUS*. (Zambesi Black Tit.)

(a) (b) ♀. Opposite Feira, Sept. '03.

(c) ♀. Palnohwe, Aug. '04.

Generally in pretty thick bush.

184. *LANIUS COLLARIS*. (Fiscal Shrike.)

(a) ♂. Serenji, July '05.

[This bird seems to be a somewhat intermediate form between *L. humeralis* and *L. collaris*.]

186. *LANIUS MINOR*. (Lesser Grey Shrike.)

(a) ♂. Ulungu, Nov. '04.

Not common. I have only met with it two or three times, though it is easy to see, being very fearless and always sitting on a conspicuous bare branch.

187. *LANIUS COLLURIO*. (Red-backed Shrike.)

(a) (b) juv. Feira, Nov. '03.

(c-e) 2 ♂ s ad., 1 ♂. George's Ferry, Mar. '04.

(f) juv. Ulungu, Nov. '04.

Very common.

190. *NILAUS NIGRITEMPORALIS*. (Black-browed Brubru Shrike.)

(a) (b) ♀, ♀. Ulungu, June '05.

191. *TELEPHONUS SENEGALUS*. (Black-headed Bush-Shrike.)

(a) ♀. BC₃, May '04. Iris blue-grey, with a narrow

inner rim of reddish brown ; bill black ; legs and feet light grey.

Very frequent on the hills. Its song is "ōhōō ōhī" repeated two or three times, but it also makes harsh queer noises.

194. TELEPHONUS MINOR. (Eastern Three-streaked Bush Shrike.)

(a) ♀. Feira, July '03.

(b). Chiromwe, Oct. '03.

Plentiful chiefly in the bush of the hot valleys, whereas *T. senegalus* is only on the hills.

195 A. DRYOSCOPIUS CUBLA HAMATUS. (Tropical Puff-back Shrike.)

(a) Chiromwe, Oct. '03.

(b) (c) ♂, ♂ juv. Ulungu, June '05.

198. DRYOSCOPIUS MOSSAMBICUS. (Mozambique Shrike.)

(a) Opposite Feira, Sept. '03.

Common in thick bush.

205. LANIARIUS SULFUREIPECTUS. (Orange-breasted Bush Shrike.)

(a) ♂. Ulungu, Nov. '04.

(b) ♂. Mpika dist., Oct. '05.

Shot near the Loangwa in November, in thick bush.

206. LANIARIUS STARKI. (Southern Grey-headed Bush Shrike.)

(a) ♀. Feira, Sept. '03.

(b) ♂. Ulungu, June '05.

Common near Feira.

207. NICATOR GULARIS. (Zambesi Green Shrike.)

(a) ♀. Opposite Feira, Sept. '03.

(b) ♂. Ulungu, Nov. '04.

The Zambesi Green Shrike is always in thick bush, and does not seem to fly much. I have seen it fly to the bottom of a tree and hop to the top of it. In the rainy season it has a remarkable song—a short burst of half a dozen notes rapidly

uttered in a very liquid tone. In October one hears the song prefaced by three or four low single notes, as if the bird were practising. This Shrike is usually, though not invariably, close to a stream.

210. SIGMODUS TRICOLOR. (Zambesi Helmet Shrike.)

(a). Chiromwe, Oct. '03.

(b) ♂. Boundary, Nov. '03.

(c) (d) ♂ ♀. Kanyani, Mar. '04.

(e). Mtimba's, June '05.

(f) ♂ juv. Serenji, July '05.

(g) ♂. Karoka's, Sept. '05.

Parties of the Zambesi Helmet Shrike are to be seen fairly often in places where the trees are a good size, but not too thick. They travel in the same way as *Prionops talacoma* (Smith's Helmet Shrike), but faster and with longer flights, and this makes them rather hard to shoot. A flock of these birds is nearly always accompanied by a Drongo. Whether he robs them, or goes with them just for company, I cannot say.

211. PRIONOPS TALACOMA. (Smith's Helmet Shrike.)

(a). Feira, July '03.

(b). Chiromwe, Oct. '03.

(c) ♂ juv. Mtimba's, Feb. '05.

This Shrike resembles the Zambesi Helmet Shrike, but flies more slowly and is often found on low bushes.

212. CRATEROPUS JARDINII. (Jardine's Babbler.)

(a). Feira, Sept. '03.

215. CRATEROPUS HARTLAUBI. (Hartlaub's Babbler.)

(a-d) ♂ s & ♀ s. Serenji, July, Aug. '05.

219. PYCNONOTUS LAYARDI. (Black-capped Bulbul.)

(a). Feira, Sept. '03.

— ANDROPADUS MASUKUENSIS (Shelley). (Masuku Bulbul.)

(a) ♂. Nr. Mpika's, Oct. '05.

[This species is not included in the South African Check-list. It was described by Shelley ('Ibis,' 1897, p. 534) from Masuku, near the north end of Lake Nyasa.]

224. CHLOROCICHLA OCCIDENTALIS. (Damara Bulbul.)

(a) Opposite Feira, Sept. '03.

227. PHYLLOSTROPHUS STREPITANS. (Reichenow's Bristle-necked Bulbul.)

(a-c) ♀. Feira, Sept., Dec. '03.

— PHYLLOSTROPHUS FULVIVENTRIS (Cab.) (Buff-bellied Bristle-necked Bulbul.)

(a) ♀. Karoka's, Sept. '05.

[An Angolan species not in the Check-list, though included by Sharpe in his edition of Layard's 'Birds of South Africa' (p. 814).]

231. PARISOMA PLUMBEUM. (Hartlaub's Tit Babbler.)

(a). Palnohwe, Aug. '04.

234. PHYLLOSCOPUS TROCHILUS. (Willow Wren.)

(a) ♂. Ulungu, Nov. '04.

(b). Luvia' Mpika's, Oct. '05.

236. ACROCEPHALUS ARUNDINACEUS. (Great Reed Warbler.)

(a) ♂. Feira, Feb. '04.

251. EREMOMELA USTICOLLIS. (Brown-throated Bush Warbler.)

(a) ♂. Umbe Hill, nr. Serenji, Sept. '05.

252. EREMOMELA SCOTOPS. (Dusky-faced Bush Warbler.)

(a) (b) ♀. Serenji, Sept. '05.

255. CAMAROPTERA BREVICAUDATA. (Rüppell's Bush Warbler.)

(a) ♂. George's Ferry, Feb. '04.

(b) (c) ♂. Ulungu, Nov. '04.

257. SYLVIELLA PALLIDA. (Zambesi Crombec.)

(a). George's Ferry, Feb. '04.

269. PRINIA MYSTACEA. (Tawny-flanked Wren Warbler.)

(a). Zumbo, Oct. '03.

(b) ♂. Ulungu, Nov. '04.

(c) ♂. Dambo, nr. Kanyani, Mar. '05.

274. *CISTICOLA CINERASCENS*. (Grey Grass Warbler.)

(a). George's Ferry, Feb. '04.

275. *CISTICOLA ERYTHROPS*. (Rufous-fronted Grass Warbler.)

(a) (b). George's Ferry, Feb. '04.

284. *CISTICOLA CHINIANA*. (Eastern Grey-backed Grass Warbler.)

(a) ♂. Feira, July '03.

283. *CISTICOLA NATALENSIS*. (Natal Grass Warbler.)

(a). Karoka's, Mpika dist., Sept. '05.

286. *PINARORNIS PLUMOSUS*. (Sooty Chat Warbler.)

(a) (b) (c) ♂ ♀. Palmohwe, Aug. '04. Iris brown; bill, legs, and feet black. Stomach, little beetles.

298. *TURDUS LIBONIANUS*. (Kurrichaine Thrush.)

(a) ♀. BC₂, July '04.

(b) ♀. Palmohwe.

303. *MONTICOLA ANGOLENSIS*. (Angola Rock Thrush.)

(a) ♂. Chiromwe.

(b) ♀ juv. BC₃, May '04.

(c) ♀ juv. Kapsuku, Apr. '05.

(d) ♂. Ulungu, June '05.

MYRMECOCICHLA, sp. inc.

(a) ♀? Lavusi, Sept. '05.

(b) ♀. Serenji, Sept. '05.

(c) ♀. Nr. Mpika's, Oct. '05.

Above and below glossy black throughout, slightly browner on the wings; a large white patch at the angle of the wing, including the least coverts; wing-quills bronzy brown below; under wing-coverts black, like the rest of the plumage.

Iris brown; bill and legs black. Length (in skin) 7.5 in., wing 4.5, tail 2.10, culmen .62, tarsus 1.0."

This description is drawn up from a specimen sexed as a female by Dr. Stoehr, but which I think must be a

male. It was shot when seated on an ant-hill, at Lavusi, in the Serenji district of North-east Rhodesia, in September, by Dr. Stoehr, and was presented by him to the South African Museum (Reg. no. 9272).

Two other Chats, which I take to be the females of the same species, are dark brown throughout above and below, with a slight wash of chestnut-brown on the upper and under tail-coverts. The quills below are bronzy brown, but there is no trace of the white shoulders.

One of these is labelled "♀. Iris brown; bill and legs black. On Dambo, sitting on ant-hills. Flight undulating. Chatwatile, nr. Serenji, Sept. '05." The other, "♀. Iris brown; bill and legs black. Nr. Mpika, Oct. '05." Both were procured by Dr. Stoehr, of the Geodetic Survey, and were presented by him to the South African Museum.

This species differs from *M. formicivora* (Ant-eating Chat) in the black coloration of the male and the entire absence of white on the wing-quills. Its correct name cannot be ascertained without further examination and comparison.

306. PRATINCOLA TORQUATA. (South African Stone-Chat.)

(a) (b) ♂. Serenji, July '05.

309. SAXICOLA PILEATA LIVINGSTONII. (Livingstone's Wheatear.)

(a) ♀. Lavusi, nr. Serenji, Sept. '05.

314. SAXICOLA FALKENSTEINI. (Falkenstein's Chat.)

(a-d) ♂ ♀. Chiromwe, Oct. '03.

(e). BC₃, May '04.

(f). Serenji, July '05.

318. THAMNOLÆA CINNAMOMEIVENTRIS. (White-shouldered Bush Chat.)

(a) ♂. Chiromwe, Oct. '03.

(b) ♂. BC₂, July '04.

Wherever there are rocks, there are plenty of these birds exploring the cracks for beetles. In one place, where the

rocks were very steep, they had a pretty habit of taking long jumps down-hill, perfectly motionless like a diver, but feet foremost, with the wings closed until just before reaching the ground, when they would open them to break the fall.

319. *THAMNOLÆA ARNOTTI*. (Arnot's Bush Chat.)

(a) ♀? Boundary, Oct. '03.

(b) ♂. Ulungu, July '05.

We found Arnot's Bush Chat very common at a spot on the Anglo-Portuguese boundary in very dry mopani veld, some four miles from water. I have since seen it twice, both times in dry country, and it is plentiful on Ulungu Hill. They eat small insects, particularly ants, which they find partly on the ground, but also, at some seasons, on the bark of trees. Sometimes they perch on a dead branch and take insects in the air, in much the same style as a Drongo. The females have a varying amount of grey or white extending from the throat on to the breast.

322. *COSSYPHA HEUGLINI*. (Heuglin's Robin Chat.)

(a) (b) ♂ ♀. Korasisi, Sept. '04.

(c). Ulungu, Nov. '04.

(d) ♀. Luvia' Mpika's, Oct. '05.

Heuglin's Robin Chat inhabits thick woods near water. I rather suspect it of the song ascribed to *Lagonosticta niveoguttata* (Peters' Ruddy Waxbill).

333. *ERYTHROPYGIA QUADRIVIRGATA*. (Rufous-breasted Ground Robin.)

(a). Opposite Feira.

(b). Boundary, Oct. '03.

Not common.

336. *BRADYORNIS ATER*. (Black Flycatcher.)

(a) juv. George's Ferry, Feb. '04.

(b) ♂. Ulungu, Nov. '04.

339. *BRADYORNIS MURINUS*. (Mouse-coloured Flycatcher.)

(a) ♂. Serenji, July '05.

340. *MUSCICAPA GRISOLA*. (Spotted Flycatcher.)

(a) ♀. Ulungu, Nov. '04.

341. *MUSCICAPA CÆRULESCENS*. (Blue-grey Flycatcher.)

- (a). Opposite Feira, Sept. '04.
 (b). Boundary, Nov. '03.
 (c). Korasisi, Sept. '04.
 (d) (e) ♂ ♀. Ulungu, Nov. '04.
 (f) ♂. Mpika, Oct. '05.

Plentiful at Feira, but further north I think it got less common.

342. *ALSEONAX ADUSTA*. (Dusky Flycatcher.)

- (a). Chiromwe, Oct. '03.
 (b) juv. Kanyani, Mar. '05.
 (c) ♂. Serenji, July '05.

345. *HYLIOTA AUSTRALIS*. (Mashonaland Flycatcher.)

- (a-c) ♂. Chiromwe, Sept. '03.
 (d) ♂. BC₃, May '04.
 (e) (f) ♂ ♀. Luvia, Mpika dist., Oct. '05.

The Mashonaland Flycatcher was met with in several places on the hills: in one case they were about for a few days and then disappeared; I thought they were travelling.

—. *HYLIOTA BARBOZÆ* (Hartl.). (Barboza's Hyliota.)

- (a) ♂. Serenji, Sept. '05.

[This species, which is not in the South African Check-list, is distinguished by its metallic steely-blue upper plumage. It has hitherto been known from Angola, the Congo Free State, and Nyasaland. It is described by Reichenow (Vög. Afr. ii. p. 473).]

348. *PLATYSTIRA PELTATA*. (Green-throated Flycatcher.)

- (a) (b) (c) ♂, ♀, juv. Chikere, nr. Mpika, Oct. '05.

350. *PACHYPRORA MOLITOR*. (White-flanked Flycatcher.)

- (a). Opposite Feira, Sept. '03.

352. *ERYTHROCERCUS LIVINGSTONII*. (Livingstone's Flycatcher.)

- (a) (b). Ulungu, Nov. '04.

In November a party was seen hopping about, examining buds, in a big tree. They were very busy and quite fearless. I met them again in May 1905 at Chindewere's.

— *ELMINIA ALBICAUDA* (Boc.). (White-tailed Elminia.)
 (a) (b) ♀. Serenji, July, Aug. '05.

[An Angolan and Nyasaland species described by Reichenow (Vög. Afr. ii. p. 497).]

354A. *TERPSIPHONE PLUMBEICEPS*. (Grey-chinned Paradise Flycatcher.)

(a). Chiromwe, Oct. '03.

355. *DICRURUS AFER*. (Fork-tailed Drongo.)

(a) juv. Ulungu, June '05.

357. *CAMPOPHAGA NIGRA*. (Black Cuckoo Shrike.)

(a). Feira, Apr. '05: a young bird, just assuming adult plumage.

I only noticed the Black Cuckoo Shrike once, but I may have overlooked it. The one I shot was moving about in the middle of a bush, suggesting a Cuckoo much more than a Drongo.

359. *GRAUCALUS PECTORALIS*. (Black-chested Cuckoo Shrike.)

(a) ♂. Ulungu, June '05.

(b) ♀. Serenji, Sept. '05.

365. *PTYONOPROGNE FULIGULA*. (Rock Martin.)

Seen once on Mpokwewe, but not procured.

367. *HIRUNDO RUSTICA*. (European Swallow.)

(a). Feira, Feb. '04.

In February and March there were a great number of young birds to be seen.

372. *HIRUNDO SMITHI*. (Wire-tailed Swallow.)

(a) (b). No label.

375. *HIRUNDO PUELLA*. (Smaller Stripe-breasted Swallow.)

(a) ♀. Feira, Sept. '03.

376. *HIRUNDO SEMIRUFA*. (Rufous-breasted Swallow.)

Seen at Feira, but not shot.

377. *HIRUNDO MONTEIRI*. (Monteiro's Swallow.)

In March 1905 I found a pair of these Swallows, with nest and young, in a tall baobab-tree. As Alexander remarks, their flight reminds one of that of a Bee-eater. The cry is rather harsh.

381. *PITTA LONGIPENNIS*. (Central African Pitta.)

(a). Boundary, Nov. '03.

I found this bird at a stream on the Anglo-Portuguese boundary.

382. *UPUPA AFRICANA*. (South African Hoopoe.)

Not very numerous, but evenly distributed.

383A. *IRRISOR ERYTHORHYNCHUS*. (East African Kake-laar.)

(a). Opposite Feira, Sept. '03.

384. *RHINOPOMASTUS CYANOMELAS*. (Scimitar-bill.)

(a). George's Ferry, Mar. '04.

385. *CYPSELUS AFRICANUS*. (White-bellied Swift.)

Seen on the Mpokwewe.

390. *TACHORNIS PARVA*. (Palm Swift.)

(a) ♂. Johnson's, Oct. '04.

This Swift is found in one or two places near the Loangwa, where there are palms.

394. *CAPRIMULGUS FERVIDUS*. (Fiery-necked Nightjar.)

(a) ♀. Opposite Feira.

397. *CAPRIMULGUS FOSSIL*. (Mozambique Nightjar.)

(a). George's Ferry, Mar. '04.

(b) ♂. Serinji, Sept. '05.

Common on stony ground.

399. *COSMETORNIS VEXILLARIUS*. (Standard-wing Nightjar.)

Common, but no specimen procured.

400. *CORACIAS GARRULUS*. (European Roller.)

(a) ♀. Feira, Feb. '04.

Occasional; first seen on August 24th, last seen in February.

401. *CORACIAS CAUDATUS*. (Moselikatze's Roller.)

(a). Feira, Sept. '03.

402. *CORACIAS SPATULATUS*. (Racquet-tailed Roller.)

(a) ♀. Chiromwe, Oct. '03.

Occasionally seen ; in one place near the Loangwa there were a good number. Both sexes, or at least both of a pair, seem to indulge in the diving game described by Marshall.

404. *EURYSTOMUS AFER*. (Cinnamon Roller.)

(a) ♂. George's Ferry, Feb. '04.

Occasionally seen.

405. *MEROPS APIASTER*. (European Bee-eater.)

(a). Chiromwe, Oct. '03.

(b). George's Ferry, Mar. '04.

408. *MEROPS NUBICOIDES*. (Carmine-throated Bee-eater.)

(a) ♂. Chiromwe, Oct. '03.

(b) juv. Feira, Feb. '04.

409. *DICROCERCUS HIRUNDINEUS*. (Swallow-tailed Bee-eater.)

(a) (b) ♂ ♀. Ulungu, June '05.

410. *MELITTOPHAGUS MERIDIONALIS*. (Little Bee-eater.)

(a). Feira, July '03.

411. *MELITTOPHAGUS BULLOCKOIDES*. (White-fronted Bee-eater.)

Plentiful on the Zambesi, a little way above Feira.

412. *CERYLE RUDIS*. (Pied Kingfisher.)

413. *CERYLE MAXIMA*. (Giant Kingfisher.)

Rather uncommon.

415. *CORYTHORNIS CYANOSTIGMA*. (Malachite Kingfisher.)

(a) ♀. Feira, July '03.

417. *HALCYON SWAINSONI*. (Grey-headed Kingfisher.)

(a) ♂. George's Ferry, Feb. '04.

(b). Kanyani, Feb. '05.

419. HALCYON ORIENTALIS. (Brown-hooded Kingfisher.)

(a). Opposite Feira, Sept. '03.

(b). Serenji, Aug. '05.

The last two mentioned species are not very easy to distinguish in life and, as far as I can see, their haunts and habits are very similar.

420. HALCYON CHELICUTI. (Striped Kingfisher.)

(a) ♂. Karoka's, Mpika distr., Sept. '05.

425. COLIUS ERYTHROMELON. (Red-faced Mouse-Bird.)

(a). No label.

The Red-faced Mouse-Bird is plentiful about Feira, but I do not remember finding it common elsewhere.

426. BUCORAX CAFER. (Brom-Vogel.)

(a) ♂. No label.

Occasionally met with in twos and threes.

427. BYCANISTES BUCCINATOR. (Trumpeter Hornbill.)

(a) ♀. Mtambwa's, Jan. '05.

428. LOPHOCEROS MELANOLEUCUS. (Crowned Hornbill.)

(a). No locality.

430. LOPHOCEROS EPIRHINUS. (South African Grey Hornbill.)

(a) juv. Opposite Feira, Sept. '03.

(b). George's Ferry, Mar. '04.

(c) juv. Korasisi, Sept. '04.

431. LOPHOCEROS ERYTHORHYNCHUS. (Red-billed Hornbill.)

(a) ♂. Kanyani, Jan. '05.

Of these three Hornbills the first two are widely distributed, the other, the Red-billed, is rather local, apparently liking tall trees.

— CAMPOTHERA CHRYSURA (Swains.). (Golden-tailed Woodpecker var.)

(a). Serenji, Sept. '05.

[This species is very closely allied to *C. abingdoni* (Golden-tailed Woodpecker), which indeed in 1903 was considered by Reichenow (Vög. Afr. ii. p. 173) as merely a subspecies of *C. chrysurus*.

The Serenji birds appear on the whole closest to the typical form.]

440 A. DENDROPICUS CARDINALIS HARTLAUBI. (Hartlaub's Cardinal Woodpecker.)

(a) (b) ♂. Opposite Feira, Sept. '03.

(c) ♀. Chiromwe, Oct. '03.

This is undoubtedly the most abundant and widely-spread of the Woodpeckers.

441. THRIPIAS NAMAQUUS. (Bearded Woodpecker.)

(a) ♂. George's Ferry, Mar. '04.

Apparently a rare species, though I may have overlooked it.

444. INDICATOR SPARRMANI. (Sparrman's Honey-Guide.)

(a). BC₃, April '04.

(b). Korasisi, Sept. '04.

(c). Ulungu, Nov. '04.

445. INDICATOR MAJOR. (Yellow-throated Honey-Guide.)

(a) ♂. Korasisi, Sept. '04.

446. INDICATOR MINOR. (Scaly-throated Honey-Guide.)

(a) ♀. BC₃, April '04.

(b) ♀. Ulungu, Nov. '04.

Sparrman's Honey-Guide is far the most common of the three; I have only met with the Yellow-throated species once or twice. I am not sure if it guides one to honey. The other two species certainly do so.

448. PRODOTISCUS REGULUS. (Wahlberg's Honey-Guide.)

(a). Chiromwe, Oct. '03.

(b) ♂. Mpika, Oct. '05.

(c). Chikwere, May '05.

I met with Wahlberg's Honey-Guide several times on the hills. The first bird I found sitting on a dead tree. The second example was flitting to and fro and making itself busy among the bushes like a Warbler or a Flycatcher. The stomach contained insects.

LYBIUS TORQUATUS IRRORATUS (Reichw.) (Tropical Black-collared Barbet.)

(a) ♂. Chiromwe, Oct. '03.

(b). George's Ferry, Apr. '04.

(c). Ulungu, May '05.

[Reichenow (Vög. Afr. ii. p. 126) distinguishes the Black-collared Barbet of Tropical Africa from *L. torquatus* (Black-collared Barbet) under the above name; it is rather smaller (wing under 3·5 against wing over 3·5) than the typical form from Cape Colony, and also differs in the greater distinctness and extension of the freckling on the brown back, which includes even the greater wing-coverts.]

— LYBIUS MACCLOUNII (Shelley). (Maccloun's Barbet.)

(a) ♀. Uimbe, nr. Serenji, Sept. '05.

(b) ♀. Mpika, Oct. '05.

[This is a well-marked species, first obtained by Gen. Manning from the highlands near the north end of Lake Nyasa. It was described and figured by Shelley ('Ibis,' 1899, p. 377, pl. vi.) and is not known from south of the Zambesi: cf. Reichenow, Vög. Afr. ii. p. 120.]

— STACTOLÆMA ANCHIETÆ (Boc.). (Anchieta's Barbet.)

(a) ♂. Serenji.

[Anchieta's Barbet has hitherto been known only from Angola, where it was found by the collector whose name it bears. Its occurrence in North-west Rhodesia extends its range very considerably to the west. It can easily be distinguished from *S. sowerbyi* (Sowerby's Barbet), its nearest ally, by its green-streaked throat and breast; it is described by Reichenow (Vög. Afr. ii. p. 141).]

456. BARBATULA EXTONI. (Exton's Tinker Bird.)

(a) (b) ♂ s. Ulungu, June '05.

458. TRACHYPHONUS CAFER. (Levaillant's Barbet.)

(a). Ulungu, June '05.

462. CUCULUS SOLITARIUS. (Red-chested Cuckoo.)

(a) ♂. Mpika, Oct. '05.

463. CUCULUS CLAMOSUS. (Black Cuckoo.)

(a) ♀. Mpika, Oct. '05.

465. CHRYSOCOCCYX KLAASI. (Klaas' Cuckoo.)

(a) (b). Karoka, Mpika dist., Oct. '05.

466. CHRYSOCOCCYX CUPREUS. (Didric Cuckoo.)

(a) ♂. Feira, Feb. '04.

467. COCCYSTES GLANDARIUS. (Great Spotted Cuckoo.)

(a) ♂. Feira, Dec. '04.

468. COCCYSTES JACOBINUS. (Black-and-White Cuckoo.)

(a) ♀. Feira, Nov. '03.

(b) ♀ juv. George's Ferry, Feb. '04.

(c). Ntambwa, Jan. '05.

First seen in November ; young birds about in February and March.

476. CENTROPUS SUPERCILIOSUS. (White-browed Coucal.)

(a) (b) ♀. Feira, Aug. and Dec. '03.

I fancy there must be more than one species of Coucal. I wish I had shot more of these birds.

482. GALLIREX CHLOROCHLAMYS. (Zambesi Purple-crested Lourie.)

(a-c) ♂ s. Boundary, Nov. '03.

483. SCHIZORHIS CONCOLOR. (Grey Lourie.)

485. PŒOCEPHALUS ROBUSTUS ANGOLENSIS. (Brown-necked Parrot.)

(a) (b). Boundary, Nov. '03.

A local bird.

487. PŒOCEPHALUS MEYERI. (Meyer's Parrot.)

(a) (b). Mpanza, north-west of Feira, Aug. '03.

490. AGAPORNIS LILIANÆ. (Nyasaland Lovebird.)

A native brought me a dozen young Nyasaland Lovebirds which I kept for some time in a box ; but they gave me no pleasure that way, as they were incurably hostile and on my appearance would do nothing but run into a corner, climbing over each other in their efforts to get into the darkest place. I then put their box into the fork of a big spreading fig-tree, under which we were then living, and the plan succeeded for a time excellently.

They were untiring climbers, using their beaks as much as their feet, and working away till they got out to the smallest twigs, where they would manage to stand until a breeze came. At first they had some terrible falls, but after a while they managed to tumble without hurting themselves, and for about a week all went well; instead of sleeping, however, in their box they chose a hole at the foot of the tree, and one night a wild cat came and that was the end.

I once saw a flock near Feira, but could not stop to watch them.

495. *SYRNIUM WOODFORDI*. (Woodford's Owl.)

An example was shot at Chindewere's.

502. *SCOTOPELIA PELI*. (Pel's Fishing Owl.)

(a) ♀. Ulungu, Nov. '04.

503. *FALCO MINOR*. (South African Peregrine.)

(a). No locality.

504. *FALCO BIARMICUS*. (African Hobby.)

(a) ♂. Feira, Sept. '03.

510. *TINNUNCULUS NAUMANNI*. (Lesser Kestrel.)

(a) ♀. George's Ferry, Mar. '04.

517. *AQUILA RAPAX*. (Tawny Eagle.)

(a) ♀ juv. Loangwa, Dec. '04.

520. *EUTOLMAËTUS SPILOGASTER*. (African Hawk Eagle.)

(a) ♂. George's Ferry, Feb. '04.

524. *HALIAËTUS VOCIFER*. (Sea Eagle.)

(a) (b). Loangwa, Dec. '04.

525. *HELOTARSUS ECAUDATUS*. (Bateleur.)

I have mistaken the call of this bird for the bawl of a baboon.

528. *CIRCAËTUS PECTORALIS*. (Black-breasted Harrier Eagle.)

(a) ♀. George's Ferry, Feb. '04.

530. *ASTURINULA MONOGRAMMICA*. (African Buzzard Eagle.)

532. BUTEO AUGUR. (Augur Buzzard.)

(a). BC₂, July '04.

534. MILVUS ÆGYPTIUS. (Yellow-billed Kite.)

(a). Nr. Feira, Sept. '03.

Seen from August to March.

538. PERNIS APIVORUS. (Honey Buzzard.)

539. ACCIPITER MINULLUS. (Little Sparrow Hawk.)

(a) ♀ juv. Ntambwa, Jan. '05.

(b) ♀. Ulungu, June '05.

543. ASTUR TACHIRO. (African Goshawk.)

(a). No locality.

544. ASTUR POLYZONOIDES. (Little Banded Goshawk.)

(a). Ulungu, June '05.

561. NECROSYRTE PILEATUS. (Hooded Vulture.)

(a). No locality.

There were also two other Vultures which used to frequent one of our hunting camps, but I neglected to shoot them when I had a chance.

567. PHALACROCORAX AFRICANUS. (Reed Duiker.)

(a) ♀. Loangwa, Dec. '04.

568. PLOTUS RUFUS. (Snake Bird.)

(a). Feira.

577. DISSOURA MICROSCELIS. (Woolly-necked Stork.)

I saw a flock of Woolly-necked Storks on the Zambesi in March 1905.

578. CICONIA ALBA. (White Stork.)

(a) ♀. Feira, Dec. '03.

Early in December 1903 a great flock of these birds came to Feira in pursuit of a flight of locusts. In the evening they came to drink at the Loangwa and I estimated there must have been a thousand of them. Next morning some came down to the river, while others were taking locusts off the ground before the sun warmed them. One meets them

singly or in couples where there are no locusts, and we found a nest of one on a cliff on one of the hills.

[It is very interesting that Dr. Stoehr should have found the White Stork breeding in Africa, as it is a northern migrant wintering in Central and South Africa, and, except in the case of one or two of this class of birds, they only winter here without breeding.]

580. ANASTOMUS LAMELLIGERUS. (African Open-Bill.)

(a) ♀. Loangwa.

581. EPHIPPIORHYNCHUS SENEGALENSIS. (Saddle-Bill or African Jabiru.)

(a). Loangwa, Nov. '04.

582. LEPTOPTILUS CRUMENIFERUS. (Marabou.)

(a). No locality.

A big flock came to a marshy plain, where we were working during the early rains.

583. PSEUDOTANTALUS IBIS. (Wood Ibis.)

(a). Feira, Dec. '03.

584. SCOPUS UMBRETTA. (Hammerkop.)

(a). Feira, Aug. '03.

588. ARDEA PURPUREA. (Purple Heron.)

(a) (b) ♂ ♀. Feira, Dec. '03.

589. HERODIAS ALBA. (Great White Egret.)

(a) ♀. Loangwa, Dec. '03.

590. HERODIAS BRACHYRHYNCHA. (Yellow-billed Egret.)

(a) ♀. George's Ferry, Mar. '04.

594. BUBULCUS IBIS. (Cattle Egret.)

597. BUTORIDES ATRICAPILLA. (Green-backed Heron.)

(a) ♂. Mazenlai, Mar. '04.

602. ARDEIRALLUS STURMI. (African Dwarf Bittern.)

(a) ♀. Dambo River, Kanyani, Mar. '05.

607. PLEGADIS FALCINELLUS. (Glossy Ibis.)

(a) ♂. Loangwa, Dec. '04.

608. PLATALEA ALBA. (African Spoonbill.)

(a). Feira, Nov. '03.

611. PLECTROPTERUS GAMBENSIS. (Spur-wing Goose.)

Not very common.

613. SARCIIDIORNIS MELANONOTA. (Knob-billed Duck.)

(a) ♀. Loangwa, Nov. '04.

616. DENDROCYCNA FULVA. (Whistling Duck.)

(a) ♀. Feira, Dec. '04.

617. ALOPOCHEN ÆGYPTIACUS. (Berg Gans.)

(a). Feira.

623. PÆCILONETTA ERYTHORHYNCHA. (Red-Bill.)

(a) ♂. Feira, Sept. '03.

626. NYROCA ERYTHROPTHALMA. (South African Po-chard.)

(a) ♀. Feira, Dec. '03.

629. VINAGO DELALANDII. (Delalande's Green Pigeon.)

(a). Chitangi, July '04.

(b). Loangwa, Nov. '04.

635. TURTUR AMBIGUUS. (Bocage's Red-eyed Dove.)

(a) ♂. Loangwa.

(b) (c) ♂. Ntambwa, Jan. '05.

638. TURTUR SENEGALENSIS. (Laughing Dove.)

This Dove is rather local ; I remember seeing it close to the big rivers.

639. CENA CAPENSIS. (Namaqua Dove.)

The Namaqua Dove is also local ; it is very common and tame at Feira.

641. CHALCOPELIA AFRA. (Emerald Spotted Dove.)

645. PTEROCLES BICINCTUS. (Double-banded Sandgrouse.)

The common Sandgrouse found in stony places is, I am tolerably certain, this species, but I have not been able to secure a good specimen.

648. *FRANCOLINUS SEPHÆNA.* (Crested Francolin.)

(a). Opposite Feira, Sept. '03.

Generally in the bush.

653. *FRANCOLINUS SHELLEYI.* (Shelley's Francolin.)

(a). Chiromwe.

(b) (c). Korasisi, Sept. '04.

656. *FRANCOLINUS NATALENSIS.* (Natal Francolin.)

(a) ♂. Opposite Feira, Oct. '03.

659. *PTERNISTES SWAINSONI.* (Swainson's Francolin.)

(a). Korasisi, Sept. '03.

This Francolin lives in the open country.

661. *COTURNIX DELAGORGUEI.* (Harlequin Quail.)

(a). Boundary, Oct. '03.

665. *NUMIDA MITRATA?* (East African Guinea Fowl.)

666. *GUTTERA EDOUARDI.* (Crested Guinea Fowl.)

(a). Feira.

The Crested Guinea Fowl frequents hill-sides and thick bush, whereas the Common Guinea Fowl prefers flatter and more open country; yet they encroach on each other, and you may find two flocks of different species near the same place. We found this species on one occasion living in a thicket a good four miles from water.

The natives consider it less wary than the other species, and I think they are right; but probably this is because they are, as a rule, further from villages and so get less worried. I have seen this species try to escape by covering, but not the other. The call is less harsh and more rapidly uttered. They fly well enough in the open, but one often meets them in thick bush, where they cannot rise. They are said to be untameable, and that if you put them in a pen with fowls, the fowls will peck and chase them. The Common Guinea Fowl is often reared in captivity from wild eggs.

671. *CREX PRATENSIS.* (Europæan Corn Crake.)

(a). No locality.

672. *CREX EGREGIA*. (African Corn Crake.)

(a). Ntambwa, Feb. '05.

(b). Kanyani, Mar. '05.

The two Corn Crakes were snared for me on a plain near the Loangwa.

673. *ORTYGOMETRA PORZANA*. (Spotted Crake.)

(a) (b) ♀. Ntambwa, Feb. '04.

680. *LIMNOCORAX NIGER*. (Black Crake.)

(a) ♀. Feira, Dec. '03.

685. *FULICA CRISTATA*. (Red-knobbed Coot.)

(a) ♂. Feira, Nov. '03.

709. *RHINOPTILUS CHALCOPTERUS*. (Bronze-winged Courser.)

(a) ♂. Feira, Dec. '04.

710. *GLAREOLA PRATICOLA*. (Pratincole.)

(a). Loangwa, Sept. '03.

On the sand-banks in the river.

712. *GALACTOCHRYSEA EMINI*. (Emin's Pratincole.)

713. *ACTOPHILUS AFRICANUS*. (African Jacana.)

(a) ♀. Feira, Dec. '03.

731. *ÆGIALITIS MARGINATUS PALLIDUS*. (Tropical White-fronted Sand Plover.)

(a). Feira, Sept. '03.

734. *HIMANTOPUS CANDIDUS*. (Black-winged Stint.)

(a) ♂. Feira, Sept. '03.

736. *NUMENIUS ARQUATUS*. (Curlew.)

(a) ♀. No locality.

744. *TOTANUS HYPOLEUCUS*. (Common Sandpiper.)

(a). Feira, Aug. '03.

XIX.—*Description of the Nest and Eggs of Mirafra rufipilea (Rufous-headed Lark).* By Lient. STANLEY PERSHOUSE, 2nd Border Regt.

AT Middelburg, Transvaal, on the 11th November, 1905, I found the nest of the Rufous-headed Lark (*Mirafra rufipilea*). The parent bird was snared on the nest and identified by Mr. W. L. Selater, M.A., of the South African Museum. The nest, which was made of coarse grass and lined with finer grass, dome-shaped, was sunk about two inches in the ground, under a tuft of grass, quite close to a cart-road. Some of the grass-stems of the tuft were pulled over and woven into the nest. It contained two white elongated eggs, thickly spotted with brown and rusty brown, forming almost a brown patch on the obtuse ends. They were incubated and I was unable to blow them.

Middelburg, 4.12.05.

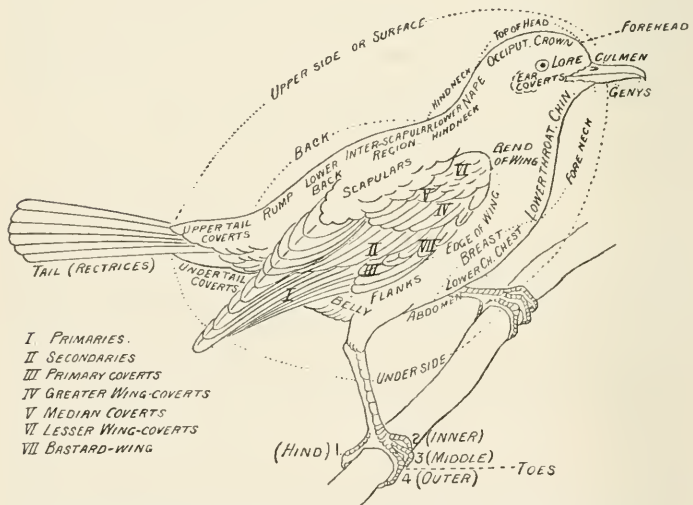
XX.—*The Nomenclature and Mode of Measuring the External Portions of a Bird's Anatomy.* By Professor ANTON REICHENOW. Translated for this Journal by Mr. HENRIK GRÖNVOLD from the original paper (*Orn. Monats.*, March 1905), by special permission and wish of the Author.

It is of considerable importance for any person who may have to identify Birds from written descriptions to be acquainted with the correct names of the different parts of a Bird's body.

At the present day, more than in former times, the Collector, Traveller, and Field-Naturalist all have both the opportunity and wish to describe new forms.

Even if the accurate naming of the special characteristics of a Bird was only of importance to the describer of a new form, it is still clearly necessary that his description should be generally intelligible. On account of this, and for the

purpose of avoiding ambiguity, the amateur frequently is led into using lengthy explanatory terms, whilst the expert is able to utilize the accepted technical expressions. It is not always easy for the casual ornithologist to obtain the knowledge of these "technical" words, often because he is unable to gain access to works in which they are explained, or through ignorance of any publications where explanatory diagrams can be found. I have been repeatedly requested by a number of persons to publish an ornithological glossary of this character in my Monthly Journal, and I have accordingly drawn the subjoined diagrammatic figure, which may,



The Nomenclature of the External Portions of a Bird's Anatomy.

perhaps, serve as a basis for a universal nomenclature; it has the further recommendation of having been adopted by other authors, as, for instance, by Hartert in his 'Birds of the Palearctic Fauna.'

Next to the German words are added the corresponding English expressions as used by Dr. Sharpe and others in the 'Catalogue of Birds in the British Museum,' the Italian terms as used by Arrigoni in his 'Manual of Italian

Ornithology.' No French expressions could be added, as no French work exists which gives suitable synonyms.

The chief measurements which are of importance for the complete description of a Bird are :—Total length ; length of wing ; length of tail ; length of tarsus, and also sometimes length of the middle toe and of the claw of the middle toe ; and length of bill, which in the case of Birds of Prey is from the cere to the tip.

The exact manner in which these measurements are taken may have hitherto somewhat differed, but in order to establish a universal uniformity of practice, the mode adopted by the Author will be given in detail below, the methods being based upon over thirty years' practical experience.

German, Latin, English, and Italian Synonyms.

<i>German.</i>	<i>Latin.</i>	<i>English.</i>	<i>Italian.</i>
Schnabel	rostrum	beak	becco
Oberkiefer	maxilla	upper beak (maxilla)	mandibola superiore (mascella)
Unterkiefer	mandibula	mandible	mandibola inferiore
Firste	culmen	culmen	culmine
Dille	genys	genys	gonide
Schnabelspalt	rictus (rostri hiatus)	gape	fessura della bocca
Schnabelwinkel	angulus oris	corner of the mouth	angolo della bocca
Schnabelborsten	vibrissæ	rictal bristles	vibrissi
Wachshaut	cera	cere	cera
Oberseite	notæum	upper surface	parti superiori
Kopf	caput	head	testa
Oberkopf	pileum	top of the head	pileo
Stirn	frons	forehead	fronte
Scheitel	vertex	crown	vertice
Hinterkopf	occiput	occiput	occipite
Hals	collum	neck	collo
Oberhals (früher Hinterhals)	cervix	hind-neck	cervice
Genick	nucha	nape	nuca
Nacken	auchenium	lower hind-neck	auchenio
Rücken	dorsum	back	regione dorsale
Mantel (Vorder- und Hinterrücken)	stragulum (palium)	mantle	dorso (mantello)
Vorderrücken (früher Ober Rücken)	interscapulium	interscapular region	regione interscapolare

<i>German.</i>	<i>Latin.</i>	<i>English.</i>	<i>Italian.</i>
Hinterrücken (früher Unter- rücken)	tergum	lower back	tergo
Bürzel	uropygium	rump	groppone
Oberschwanz- decken	supracaudales	upper tail-coverts	sopraccoda (sopra- caudali)
Unterseite	gastræum	entire under sur- face	parti inferiori
Unterhals (früh. Vorderhals)	guttur	entire throat (fore- neck)	collo anteriore
Kinnwinkel	angulus mentalis	interramal space	spazio interramale
Kinn	mentum	chin	mento
Kehle	gula	throat	gola
Kropf (Gurgel)	iugulum	lower throat	gozzo
Unterkörper	abdomen	under surface	addome
Vorderbrust (früher Ober- brust)	præpectus	chest	alto petto
Brust	pectus	breast	petto
Bauch	venter	belly (vent)	ventre
Weichen (Kör- perseite)	hypochondria	flanks	ipocondrio
Schenkel (Hose)	tibia	thigh	calzone
Steiss	crissum	crissum	basso addome
Unterschwanz- decken	subcaudales	under tail-coverts	sottocoda (sotto- caudali)
Zügel	lorum	lore	redini
Ohrgegend	regio parotica	ear-coverts	cuopritrici auri- colari
Wange	gena	cheek	gota
Augenbraue	supercilium	eyebrow (super- ciliary stripe)	sopracciglio
Schläfe	tempora	temporal region	tempia
Bartstreif	regio malaris	malar stripe	mustacchio
Halsseite	parauchenium	side of neck	collo laterale
Schwanz	cauda	tail	coda
Steuerfedern	rectrices	tail-feathers	timoniere
Flügel	ala	wing	ala
Flügelbug	flexura	bend of wing	angolo dell' ala
Armrand (früher oberer Flügel- rand)	campterium	edge of wing	margine dell' ala
Handrand (früh. Flügelrand)	remiges	quills	remiganti
Schwingen	remiges primariæ	primaries	remiganti primarie
Handschwingen	remiges secundariæ	secondaries	remiganti secundarie
Armschwingen	remiges tertiaræ	inner secondaries (tertials)	remiganti cubitali (terziarie)
Innere Arm- schwingen	remiges tertiaræ	inner secondaries (tertials)	remiganti cubitali (terziarie)
Oberflügeldecken	tectrices superi- ores.	upper wing-coverts	cuopritrici superi- ori
Unterflügeldecken	tectrices inferiores	under wing-coverts	cuopritrici inferi- ori

<i>German.</i>	<i>Latin.</i>	<i>English.</i>	<i>Italian.</i>
Handdecken	tectrices primariæ	primary coverts	cuopritrici primarie
Kleine Flügeldecken	tectrices minores	lesser wing-coverts	piccole cuopritrici secundarie
Mittlere Flügeldecken	tectrices mediæ	median wing-coverts	mediane cuopr. secundarie
Grosse Flügeldecken	tectrices majores	greater wing-coverts	grandi cuopr. secundarie
Afterflügel	alula	bastard-wing	ala bastarda
Schulterfeder (Schulterfittich)	scapulares	scapulars	scapolari
Achselfedern	axillares	axillaries	ascellari
Lauf	tarsus	tarsus	tarso
Hinterzehe (1. Zehe)	hallux	hind toe	dito posteriore (primodito)
Innenzehe (2. Zehe)	digitus secundus	inner toe	dito interno (secondo d.)
Mittelzehe (3. Zehe)	digitus tertius (medius)	middle toe	dito mediano (terzo d.)
Aussenzehe (4. Zehe)	digitus quartus	outer toe	dito esterno (quarto d.)
Spiegel	speculum	speculum	specchio
Sporn	calcar	spur	sprone

The Methods and Technique of Measuring.

It is desirable in practice to give measurements in millimetres (mm.). The term "Centimetre," which is also sometimes used, is not satisfactory, because in the case of small measurements it is necessary to employ decimals, which may easily lead to mistakes and misprints, and the omission of a stop or point is liable to cause confusion. It is, therefore, always undesirable to employ "Centimetres" in measuring Birds and Eggs.

1. *The Total Length* (T. L.) is the measurement from the tip of the bill to the tip of the central tail-feather measured on the outstretched body of a bird: the body must not be forcibly lengthened.

2. *The Length of Wing* (L. of W.) is the measurement taken from the carpal (wrist) joint to the end of the longest flight-feather. The method of measurement is as follows: place a millimetre-rule under the wing and press the wing gently on to it, reading the scale thereafter.

[As above stated, Dr. Hartert has adopted this mode of measurement, but I do not believe that this has hitherto been

the usual practice—at any rate, not in England, where the wing is not measured pressed down on to the rule, but lying on it, with its natural curvature, thus giving a short measurement.—G. H. G.]

3. *The Length of Tail* (L. of T.) is the measurement from the root of the tail-feathers to the end of the longest feather. The measurement must be taken by placing the rule underneath the tail, with one end of the rule against the place where the under tail-coverts start and where also can be easily felt the roots of the tail-feathers proper.

4. *The Length of Tarsus* (T.) is the measurement taken from the notch in the posterior part of the joint between the leg and the lower thigh to the notch between the upper ridge of the middle toe and the lower edge of the lowest scale of the front part of the leg: should be taken with a pair of compasses.

5. *The Length of the Middle Toe* (Mt.) is the measurement from the notch on the anterior ridge of the lowest scale between the leg and the root of the middle toe to the point of the claw on the middle toe—the toe being stretched out.

5 a. *The Length of the Middle Claw* is the measurement taken from the upper anterior edge of the last scale on the toe to the point of the nail on the claw.

6. *The Length of the Bill* is the measurement taken in a straight line from the point of the root of the upper ridge of the bill where the forehead-feathers begin to the point of the upper mandible. One point of the compass must be placed where the horny substance of the bill and the forehead-feathers meet, and it is sometimes necessary to move the feathers to one side. In Birds which have a cere at the root of the bill, the measurement is a straight line taken from the upper anterior part of the cere to the point of the upper mandible.

OCCASIONAL NOTES.

(1) Mr. JOHN A. BUCKNILL has been elected a Member of the British Ornithologists' Union.

(2) THE Hon. Secretary has received a letter from Professor ALFRED NEWTON, F.R.S., of Magdalene College, Cambridge, thanking the Members of the Union for their kindness in electing him as an Honorary Member ; he congratulates the Union on its formation and wishes it continued prosperity.

(3) As the concluding volume of Stark and Selater's 'Fauna of S. Africa : Birds' has now been published, the nomenclature used in this Journal will in future, as far as possible, follow that of this work. In cases where this course cannot be adopted the full reference to whatever work the name is taken from will be given.

(4) Mr. W. L. SCLATER records in 'The Ibis' for January, 1906, the second known local specimen of the rare *Thalassogeron layardi* (Layard's Mollymawk). It was obtained by the late Mr. J. O. Marais off the Knysna Heads, on the eastern coast of Cape Colony, in August 1899, and is now in the Pretoria Museum. Messrs. Ogilvie-Grant and Rothschild have decided that Layard's Mollymawk, which was until recently supposed to be of specific identity, is really the same as *Diomedea cauta* (Shy Albatross), a species which is found not uncommonly in New Zealand waters and was described by Gould in 1840. The bird breeds on the Bounty Islands.

(5) AMONGST the many collections of Ornithological interest which were acquired for the British Museum in the year 1904-5 was one consisting of four hundred and twenty-seven birds and eggs from the Orange River Colony and British Bechuanaland, collected by Messrs. R. B. Woosnam and R. E. Dent.

(6) PLATE No. V. illustrates an albino specimen of *Erythropygia pæna* (Smith's Ground Robin), together with another of normal plumage for comparison. The albino, sex unknown, was obtained at Warmbaths, some few miles north of Pretoria, in April 1904, and is now in the Transvaal Museum at Pretoria. The photograph is by Mr. C. B. Horsbrugh, of that Institution.

(7) Mr. J. D. HAMLYN, of London, recently concluded a collecting trip in Cape Colony and the Orange River Colony, returning to England with a considerable number of live birds and animals; included amongst the latter were Eland, White-tailed Wildebeeste, Springbok, Blesbok, and four Cape Sea-Lions. Amongst the birds obtained were specimens of *Hematopus moquini* (Black Oyster-catcher), *Eutolmæetus bellicosus* (Martial Eagle), *Spheniscus demersus* (Jackass Penguin), *Gyps kolbii* (Kolbe's Vulture), and many Passerine species. Most of these animals and birds were deposited in the Zoological Society's Gardens, but the majority will probably pass into the hands of different collectors.

(8) THE cruise of Lord Crawford's fine yacht the 'Valhalla' came to an end in the spring. Those who were lucky enough to participate in it must have had a delightful and interesting ornithological journey. The route taken was *viâ* Grand Canary, St. Paul's Island, Bahia (where the island of Itaparica was visited and where some of the party caught malaria), South Trinidad Island, Tristan d'Acunha, Cape Town (where the party visited the Penguin rookeries on Dassen Island), Durban, Mayotta (one of the Comoro Islands), North-east Madagascar, Glorioso Island, Assumption Island, Aldabra, and the Seychelles, and then home *viâ* Aden and the Canal.

Mr. M. J. Nicoll preserved over five hundred birds besides mammals and fishes, all of which were presented to the British Museum. Mr. E. G. B. Meade-Waldo accompanied the expedition.



Photo by C. B. Horsbrugh, Pretoria.

SMITH'S GROUND ROBIN: Albino (*Erythropygia pæna*).

The fearlessness of the Jackass Penguins (*Spheniscus demersus*) on Dassen Island caused much surprise. It was noticed by Mr. Meade-Waldo that the Sacred Ibis (*Ibis aethiopica*), which was found breeding in the midst of a colony of Cape Cormorants, was reported to live on the food brought for the young Cormorants and on their entrails!—a statement supported by the fact that a young Sacred Ibis on being handled disgorged a mass of intestines.

(9) A SHORT review of the 2nd No. of this Journal appears in the April (1906) No. of 'The Ibis.'

(10) ON the 29th May Mr. Oldfield Thomas and Mr. Harold Schwann gave to the Zoological Society of London an account of the collections made by Mr. Grant, who has been touring in the North-eastern District of the Transvaal, his route lying by way of Delagoa Bay and Pretoria to the Zoutpansberg. Details of this collection are not, as yet, to hand.

(11) AT the Crystal Palace Bird Show held last February (9th-13th), a pair of Violet-eared Waxbills (*Estrilda granatina*) took first prize in the Waxbill and Weaver class, whilst a fine cock Red-faced Waxbill (*Pytelia melba*) was second. In the class for Sugar-birds, Tanagers, and Sun-birds, a male Malachite Sun-bird (*Nectarina famosa*) took premier honours.

(12) Mr. JOHN WOOD, of East London, writes:—'I should like to see a List made of our birds exhibiting what may be termed 'irregular' nesting-habits.

'The following have come under my notice here:—

'March 29th.—Bulbul (*Pycnonotus capensis*), known in the Western Province as 'Kuif-kop,' and in the Eastern Province as 'Tiptolitje.' I found it sitting on four eggs which were only about half incubated.

'April 27th.—Red-winged Spreeuw (*Amydrus morio*), 'Rooivlerk.' I saw it on this date feeding three young ones

nearly ready for flight. The nest was on a ledge in face of a krantz.

“June 10th.—South African Ruddy Waxbill (*Lagonosticta rubricata*). In the heart of a bunch of lily-leaves by the edge of the bush I chanced upon a nest, at this late date, of this species. As I laid hold of it four young ones barely able to fly made their escape. It was loosely constructed of coarse grass, and the inside for more than three parts towards the dome was plastered with the birds’ droppings. This was so systematically done that not a chink was left for the wind to enter opposite the inmates.

“So far as I have seen about here, the great majority of birds are finished with nesting before the end of the year.

“Last Easter I handled a young Trogon which was probably hatched out in January or February. During July 1904—midwinter—I noticed a pair of Trogons here, and had previously believed they entirely left us at the approach of the cold months.”

(13) Dr. GEORGE TURNER, Medical Officer of Health for the Transvaal, left on his long-planned water expedition down the Inkoomati River in the early part of June. The Doctor will be absent some four or five months and expects to bring back with him many ornithological specimens.

(14) WITH the commencement of the 2nd Series of this Journal an endeavour will be made to give, in addition to original papers, more systematic information as to the progress of ornithology in general, and of South African Ornithology in particular, than has hitherto been the case. The Union now regularly receives a variety of Ornithological periodical publications, such as ‘The Ibis,’ ‘The Emu,’ ‘The Auk,’ the ‘Journal für Ornithologie,’ the ‘Ornithologische Monatsberichte,’ and the ‘Proceedings of the Zoological Society of London,’ &c., &c.

Those papers which appear in these and similar journals will be in future, wherever it is thought that they will be of

general interest, systematically extracted in the pages of this Journal.

New Ornithological publications of specific local character will also be separately reviewed by a competent staff of abstractors.

A list of the Ornithological additions to the Transvaal Zoological Gardens will also be published, and a special column will be devoted to answers to enquiries and general local correspondence.

(15) IN the June, 1907, number of this Journal, it is hoped to publish the first of a series of papers descriptive of the unique collection of South African Birds' Eggs in the possession of the Transvaal Museum, Pretoria, by Messrs. John A. Bucknill and C. B. Horsbrugh.

(16) MR. L. E. TAYLOR, F.Z.S., M.B.O.U., writes :—"I have been struck lately in reading through vol. iv. (Sclater's 'Birds S. Africa') with the very scanty information which is given of the distribution of birds in South Africa. I think that our Union ought to endeavour to collect more information on the subject, in the same way as the botanists are doing with plants. I would like to suggest that the matter should be brought up at the next Annual Meeting, and that a circular should be sent to every member asking him to compile a list of the birds in his district or wherever he has a chance of making observations. One member or a committee might be appointed for each Colony to tabulate the results, and a further committee might later on work on the determination of the ornithological regions for the whole of South Africa. Care would have to be taken that the exact localities should be carefully noted, otherwise it would be difficult to define the various regions: *e. g.*, a man working in Pretoria would probably note the birds on the north side of the Magaliesberg and also beyond Irene, and if the locality was simply given as Pretoria there would be no means of defining the great boundary line which exists in the Magaliesberg Range. The nature of the country would also be very

important, whether forest, scrub, or grass-land, also the topography and meteorological conditions, and any special features, such as rivers, which would tend to cause overlapping in the different regions. The more lists that are made of the birds even in one district the better.

“It is an immensely interesting subject, and if it was properly worked up I am sure it would be of great scientific value, not only to ornithologists but to botanists and others also.

“It cannot, of course, be done in a few months, and would probably take some years, and when the time came for publishing the results the South African Association for the Advancement of Science or even the Governments might assist with grants.”

SHORT NOTICES.

(1) THE fourth and final volume of Stark and Selater's ‘Fauna of South Africa: Birds’ was issued from the press early this year. With this publication closes a chapter in South African Ornithological history and a work for which no words of praise can be too high and which deserves the deepest gratitude of every Ornithologist throughout the world.

The scientific and systematic character of the four volumes mark this work as one which must always rank with those other productions upon the Avifauna of great countries which are generally designated as Standard.

It must not be forgotten that although the rough outline of the scheme and many original notes and collected observations were in the first instance framed and obtained by the late Dr. Stark, and although the proofs of the first volume were actually passed by him through the press, his tragic death threw the whole of the burden of the three succeeding volumes upon the shoulders of Mr. Selater, to whom, indeed, the praise is by far most due.

It may, perhaps, be not out of place to give here a brief review of the whole undertaking.

The Series of Works dealing with the Fauna of Africa South of the Zambesi and Cunéné Rivers was planned by Mr. W. L. Sclater, M.A., F.Z.S., Director of the South African Museum, Cape Town. That part of the series which related to Birds was placed in the hands of Dr. A. C. Stark, a most capable naturalist, who, unlike the General Editor, Mr. Sclater, was able to devote the whole of his time to the work in hand. Some systematic work of the proposed character was much needed, the most recent volume of a general nature, that of Sharpe's Edition of Layard's 'Birds of South Africa' (published 1875-1884), being already quite out of date, and much material having been since accumulated and only to be found scattered throughout the pages of various Ornithological Journals.

The first volume was issued in 1900, its compiler unfortunately not being alive to view its success: on the outbreak of the second Boer war Dr. Stark volunteered as a medical officer and proceeded to Ladysmith, where, on the 10th Nov., 1899, he was killed by a shell whilst he was standing at the door of the Royal Hotel: a sad and irreparable loss. Entrusted by the deceased's executors with all the material already collected, Mr. Sclater issued the second volume in 1901, the third in 1903, and the fourth and last this year.

Supplementary material was also published in the 'Annals of the South African Museum,' vol. iii. part 8 (1905).

The extent of the whole work can be fairly gauged when it is stated that the first volume consisted of 322 pages and over 80 illustrations, the second volume of 323 pages, a map, and 83 illustrations, the third of 416 pages and 141 illustrations, and the fourth of 545 pages and 163 illustrations.

The first volume deals with about half of the Passerine Birds and details the members of the Corvidæ, Sturnidæ, Oriolidæ, Ploceidæ, Fringillidæ, Alaudidæ, Motacillidæ, Certhiidæ, Promeropidæ, Nectariniidæ, Zosteropidæ, and Paridæ.

The second volume concludes the Passerine Order and

relates to the Laniidæ, Crateropodidæ, Sylviidæ, Turdidæ, Muscicapidæ, Dieruridæ, Campophagidæ, Hirundinidæ, and Pittidæ.

The third volume treats of the Orders Picariæ, Psittaci, Striges, and Accipitres, and the fourth with the Orders Steganopodes, Herodiones, Odontoglossæ, Anseres, Columbæ, Pterocletes, Gallinæ, Hemipodii, Fulicariæ, Alectorides, Limicolæ, Gaviæ, Tubinares, Pygopodes, Impennes, and Struthiones.

The total number of species described is 814, a figure which is, however, increased in the Supplement referred to above to 868.

It is, indeed, impossible to be critical when reviewing a work of this broad and invaluable nature ; it is noticeable, indeed, throughout that although, as must in works of this class of necessity be the case, the work is largely a compilation, there is in this work much more original and personal observation and knowledge displayed than is, as a rule, found in similar productions.

In looking through its pages one is struck by the meagre records which were at the disposal of the authors concerning many species of birds and eggs which during the last few years have been found to be very common in many localities; the framework is, however, now erected and will, it is hoped, be rapidly filled up.

In the new volume special attention should be drawn to the many interesting photographs, amongst which may be mentioned :—

Fig. 6. A colony of Malagashes (*Sula capensis*) on Bird Island in Algoa Bay.

Fig. 64. Nest and eggs, with female, of the Cape Redwing (*Francolinus levaillanti*).

Fig. 93. *Balearica regulorum* (Crowned Crane).

Fig. 118. *Ægialitis tricoloris* (Three-banded Plover) with nest and two eggs.

Fig. 119. *Ægialitis marginata* (White-fronted Sand Plover) and nest in sea-grass with two eggs.

Fig. 120. *Aegialitis pecuaria* (Kittlitz's Sand Plover).
Adults and nestlings.

Fig. 160. Jackass Penguins (*Spheniscus demersus*) on Dyer's
Island off the coast of the Caledon division, Cape
Colony.

Fig. 162. Hen Ostrich sitting on nest.

Fig. 163. Nest of an Ostrich with the eggs just hatched
out and the cock bird in the distance.

It is impossible within the limits of a short review to refer to the text of the work in much detail; our veteran Ornithologist, Mr. T. Ayres—who is still with us,—looms large throughout its pages. A few notes which struck the writer of this review upon reading through the volume may be, perhaps, inserted.

The claim of the Common Cormorant of Europe (*Phalacrocorax carbo*) to inclusion in the avifauna of South Africa is finally rejected (p. 3); about 5000 tons of guano, composed chiefly of the excrement of the Trek Duiker (*Phalacrocorax capensis*) and Malagash (*Sula capensis*), is collected annually on the islands off the Cape coasts, where both these species breed in enormous numbers, and is sold to the farmers at about cost price (pp. 7, 20, and 21). The claim of *Phaëthon rubicauda* (Red-tailed Tropic Bird) for inclusion in the list rests practically solely on the discovery of an apparently freshly shed red tail-feather on the beach at Port Elizabeth (p. 24). The Marabou (*Leptoptilus crumeniferus*), a rare bird in South Africa, was met with in some numbers by Mr. Ayres near Pretoria just after the first Boer war, the birds coming to feed on the dead mules and cattle lying about the camp (p. 48).

The writer of this review may here state that although he was present at the close of the second Boer war in Pretoria, and although one or two places in the neighbourhood, such as Eloff's farm and a station outside the big Repatriation Camp not far from Skinner's Court, were crowded with dead horses and mules, the carcasses of which were conveyed daily to particular spots on the veld—veritable Golgothas—where

enormous flocks of Vultures (chiefly *Gyps kolbi*) assembled to devour the repast purposely provided for them, no Marabous were ever seen, although the writer frequently visited both these stations to observe the Aasvogels.

Dr. Stark in the case of the Wood Ibis (*Pseudotantalus ibis*) and Mr. Ayres in that of the Black Heron (*Melanophoyx ardesiaca*)—the latter a very rare bird south of the Zambesi—both observed that these birds have the curious habit, when feeding during the heat of the day, of throwing one wing forward and holding it out so that it shades a small portion of the water in which the bird is wading, thus taking off the glare of the sun and enabling the bird to see to the bottom of the stream (pp. 50 & 71).

The Red-throated Heron (*Melanophoyx vinaceigula*) seems to be a mysterious species, as the only two specimens known, which are now in the British Museum, were obtained by Mr. Ayres near Potchefstroom in the Transvaal. The separation by Dr. Bowdler Sharpe of the type *Botaurus capensis* (Cape Bittern) from *Botaurus stellaris* (European Bittern) in 1898 should be noticed. The South-African species is confined to South Africa and only differs from *B. stellaris* in being slightly smaller in size and less barring on the wing-quills. Its identity is recognized by Reichenow under the trinomial subspecific name of *Botaurus stellaris capensis* (Vög. Afr. i. p. 364, 1901). The typical *B. stellaris* seems to be known no closer than from Abyssinia.

Another of Mr. Ayres' curiosities is the so-called Black Spur-winged Goose (*Plectropterus niger*): the types brought alive to the Zoological Gardens in London came from Zanzibar, and Mr. Ayres obtained a specimen at Potchefstroom which is now in the British Museum at South Kensington. Mr. Sclater thinks, probably truly, that this species recognized by Reichenow as *Plectropterus gambensis niger* (Vög. Afr. i. p. 136, 1900) is only a variety of our friend, which takes such a lot of shot, *P. gambensis* (Spur-winged Goose), so familiar to South-African early-rising sportsmen. The whole account of the Order Anseres is very interesting, and to a Transvaaler particularly so, because of the serious dis-

cussion which is now taking place in the Transvaal as to the propriety of permitting Ducks to be shot in the present open game-season, which extends from the 14th April to the 31st August.

Attention of sportsmen may also be drawn to the difference between the two Knorhaans, *Otis afra* (Black Knorhaan), which seems to be confined to Cape Colony south of the Orange River, and *Otis afroides* (White-quilled Knorhaan), which replaces the former in other parts of South Africa: the only difference is that in *afroides* the primaries after the first are white on the inner web, the tips alone being black, whilst the under wing-coverts and the quills from below are also white; in *afra* this feathering is black. It would be interesting to discover if these two species grade off into each other in any localities. The bird known as *Turnix nana* (Natal Hemipode) was discovered by Wahlberg and then lost sight of until rediscovered quite recently by Grant (p. 241). The Spotted Crake (*Ortygometra porzana*)—a fairly common bird in Europe, where it nests—appears to just fall short of our limits, as a rule, on its southerly winter migration; although only twice observed hitherto, once by Ayres in Bechuanaland and once by Fleck in the Kalahari, Dr. Stoehr found it on many occasions in the Zambesi Valley near Feira (p. 250). All the Crakes are so shy and retiring in their habits that they are seldom observed or flushed; this no doubt accounts for the apparent great rarity of several species such as *Coturnicops ayresi* (White-winged Crake), only procured on three occasions (p. 258), *Limnocorax niger* (Black Crake) (p. 260), *Sarothura elegans* (White-spotted Crake) (p. 254), *Sarothura lineata* (Jardine's Crake) (p. 253), *Limnobanus marginalis* (Hartlaub's Crake) (p. 258). Little is recorded about these species, and ornithologists might with advantage turn their attention to the group whenever they have an opportunity of investigating a likely haunt.

The greatest known weight of the Gom Paauw (*Otis kori*)—a much-vexed question—is here recorded as 42 lbs.; but this would seem, from other weights given, to be quite exceptional.

The Gulls and sea-going species which inhabit the coasts—few of which, alas ! gladden our eyes up country—are dealt with in an exhaustive and masterly manner.

It is, perhaps, needless to say that this fourth volume is bound to prove a great success. It is published by R. H. Porter, 7 Prince's Street, Cavendish Square, London, W., and was delivered to me in the Transvaal, postage included, for £1 13s. 6d.

(2) ATTENTION may be drawn to a very remarkable work by C. B. Schillings, entitled 'With Flashlight and Rifle in Equatorial East Africa,' originally published in Leipzig in 1905, but of which an English translation has recently been issued by Messrs. Hutchinson & Co., of London. This work, which gives an account of the author's explorations, is illustrated with numerous photographs of wild life, including many illustrations of rare and interesting African birds.

(3) IN the 'Proceedings of the Rhodesia Scientific Association,' vol. iii. p. 3, 1902, appears an article by Mr. C. H. Tredgold, "On the Extensive Appearance of Quail in Matabeleland, 1901-2." The species referred to, *Coturnix delagorqueti* (Harlequin Quail), appeared in enormous flocks, in December 1901 and January and February 1902, in the neighbourhood of Buluwayo, where they bred very freely.

(4) THE January (1906) number of 'The Ibis' contains several articles of interest to South African ornithologists:—
1. "Ostrich-farming in South Africa." By the Hon. Arthur Douglas.

This paper was read in Section D at the Meeting of the British Association at Cape Town in August of last year. The author, who was, it will be remembered, Minister for Railways in the present Cape Government, died quite recently.

The domestication and farming of Ostriches for the production of feathers was, it appears, first commenced in 1867 : incubation was at first almost entirely practised, owing to the

general belief that the Ostrich would not sit in captivity. In 1880 the Colony's export of feathers was 163,065 lbs., of which about one-eighth was from wild birds; in 1904 the amount had risen to 470,381 lbs., all, practically, derived from domesticated specimens. In 1891 the Census returned 154,880 tame birds in the Colony; in 1904 357,970 !!!

A Thread-worm, "Yellow-liver" (an infectious fever), Tapeworm, "Ostrich-fly" (a parasite of which the life-history is not yet understood), and Lice appear to be the chief disease to which the domesticated birds are subject.

Two well-defined methods of Ostrich-farming are followed: the one by grazing the birds on fields of lucerne under cultivation, and the other by letting them run wild in large enclosures of three thousand acres or upwards. The former method supports five birds to the acre, and is centred round the Oudtshoorn district; the latter mode requires a range of from ten to twenty acres for each bird, and is mainly adopted on the coast west of East London and in the large river-valleys.

The value of feathers exported in 1904 was £1,058,988, about £3 10s. 0d. per head of feather-producing birds. As much as £1000 has been paid for a good pair for breeding-purposes. If well managed with skill and knowledge, the business is undoubtedly a promising and lucrative one for a farmer with sufficient capital to cover the initial outlay.

2. "On a small Collection of Birds from the Vicinity of Lake Menzalah in the Delta of Egypt." By W. L. S. Loat, F.Z.S.
3. "Ornithological Results of the Scottish National Antarctic Expedition.—II. On the Birds of the South Orkney Islands." By Wm. Eagle Clarke, F.R.S.E., F.L.S., Royal Scottish Museum.

This paper is a continuation of Part I. of the description of the Ornithological results of the expedition, which dealt with the Avifauna of Gough Island, near Tristan da Cunha, in the South Atlantic [*'Ibis,'* April, 1905, pp. 247-268]. The previous paper was, perhaps, worthy of remark, as although

Gough Island is some 1500 miles from the Cape and a mere precipitous rock, some species of sea-going birds were noticed there which are occasionally observed in the Cape Seas, e. g. :—*Sterna vittata* (Kerguelen Tern), which breeds on the island; *Stercorarius antarcticus* (Southern Skua), also breeding; *Oceanites oceanicus* (Wilson's Petrel); *Fregatta grallaria* (White-bellied Petrel); *Puffinus assimilis* (Gould's Little Shearwater), breeding; *Prioniturus cinereus* (Great Grey Petrel); *Majaqueus aquinoctialis* (Cape Hen); *Æstrelata mollis* (Soft-plumaged Petrel), breeding; *Ossifraga gigantea* (Giant Petrel), breeding; *Prion vittatus* (Broad-billed Blue Petrel); *Diomedea exulans* (Wandering Albatross), breeding; *Phœbetria fuliginosa* (Sooty Albatross); *Catarrhactes chrysocome* (Rock-hopper Penguin), also breeding.

The South Orkney Islands are also a very long way from the Cape, but the results of the Expedition are particularly interesting owing to the fact that many well-known species of birds which are familiar visitors to the Cape Seas, and of which, hitherto, little has been known about the breeding-habits, were discovered nesting in large numbers. These Islands—over a dozen in number—are situated between 60° and 61° S. lat., and 43° 3' and 47° W. long. The climate is polar: excessive snowfall, deficient sunshine, strong gales, and a mean annual temperature of 22° 7 F., the thermometer dropping at times to 40° below zero F.

Daption capensis (Cape Pigeon), *Stercorarius antarctica* (Southern Skua), *Ossifraga gigantea* (Giant Petrel), *Fregatta melanogaster* (Black-billed Petrel), *Oceanites oceanicus* (Wilson's Petrel) were all found nesting, and many important collections of both skins and eggs were made. The account is illustrated by a number of interesting photographs of the birds and their nests and eggs.

(5) THE April (1906) number of 'The Ibis' contains an interesting paper, to which attention may be drawn:—

"Bird-Notes from South Africa." By A. H. Evans.

This is a pleasant account of the birds observed by the

author—conjoint Editor of 'The Ibis'—during his visit with the British Association in August and September, 1905. Although but a very short time was spent in the many localities, Mr. Evans with his broad knowledge of ornithology was able to use his opportunities to great advantage, and his rapid itinerary through the sub-continent enabled him to obtain a good general idea of our avifauna. Cape Town, Wynberg, Table Mountain, the Cape Flats, Simonstown, Durban, Port Elizabeth, East London, Colenso, Ladysmith, Johannesburg, Pretoria, Bloemfontein, Kimberley, Buluwayo, and the Victoria Falls form a typical, though perhaps by now a somewhat hackneyed, route, and Mr. Evans was fortunate enough to obtain glimpses of most of our more familiar species. It is gratifying to note that the author seems to have thoroughly enjoyed his visit, and he repeatedly refers in the warmest terms to the hearty welcome with which he was everywhere greeted. We can only assure him that our own pleasure at his presence amongst us amply repaid any little assistance which we were able to give him, and that he can rely on our united help whenever he visits us again.

(6) IN the 'Avicultural Magazine' for Feb. 1906 appears an interesting article by Mr. L. M. Seth-Smith, B.A., M.B.O.U., entitled "Notes on a Trip to Uganda." The author gives an account of a journey from Jinja (a small station on the north of Lake Victoria) to Mbale. He mentions several South African species of birds, amongst them being *Nettapus auritus* (Dwarf Goose), *Halcyon cyanoleucus* (Angola Kingfisher), *Halcyon chelicuti* (Striped Kingfisher), *Coturnix delagorguei* (Harlequin Quail), *Æna capensis* (Namaqua Dove), and *Macronyx croceus* (Yellow-throated Long-claw).

(7) IN the 'Ornithologische Monatsberichte' for January 1906, Dr. Reichenow describes a new subspecies, *Bubo ascalaphus trotha*, from German South-west Africa. This bird, which was obtained by General von Trotha at Kutmanshoop on

June 24th, 1905, is very similar to the type *B. ascalaphus*, but is smaller, whilst the wavy lines on the breast-feathers are more thickly distributed.

(8) THE March (1906) number of the 'Avicultural Magazine' contains a short account of the Bar-breasted Weaver Finch (*Ortygospiza polyzona*), which is aptly termed the "Quail Finch." Two pairs of this species were received in the London Zoological Society's Gardens in January, being the first occasion on which this species has been represented in the Society's collections.

(9) THE January number of the 'Journal für Ornithologie' contains the first part of a lengthy and very interesting paper on the "Phylogeny of the *Lanius*-species," by Guido Schiebel, Dr. Phil. (Innsbruck), illustrated by a most instructive series of coloured plates giving adult and juvenile plumages of many members of the genus *Lanius*. In this article, which is too long for a general review, he tries to explain how the different species arose and in what way they differ from one another.

(10) THE same number contains an article on the genus *Corvus*, with four plates, by O. Kleinschmidt. This is really a supplement to von Erlanger's series on the "Bird Fauna of N.E. Africa," and is founded on the collections made by von Erlanger.

(11) THE April number of 'The Emu' (part 4, vol. iv.) contains some interesting papers, chief amongst which is a paper by Dr. D'Ombrian on a "Visit to an Ibis Rookery," which is illustrated by a photograph of young Ibises on platforms of rushes, and an exceedingly interesting monograph of "The Coach-whip Bird," by their Secretary (A. H. E. Mattingley). The latter is illustrated by two charming photo ½-tones of Coach-whip Bird and nest of young, and nest

with two eggs. A list of Members is also given from which we see that the Australian Ornithologists Union now numbers 199.

(12) IN the 'Journal für Ornithologie' for April 1906 appears the concluding half of Dr. G. Schiebel's "Phylogeny of the *Lanius*-species." It is illustrated by four lovely plates, depicting 27 figures of adult and juvenile "*Lanius*" species. This number also contains the concluding chapter of O. Neumann's "Birds of Schoa and Southern Ethiopia."

(13) THE P. Z. S. of August 1905 contains a paper entitled "Remarks on the Hybridisation of Ducks," by J. L. Bonhote. In summing up his results obtained by hybridisation he lays stress on the antagonism between Natural Selection and variation, and how the one tended to keep the species pure and fixed in spite of the innate tendency of every individual to vary, and also pointing out how, in spite of Natural Selection, marked variations were constantly making their appearance among pure species. Mr. Bonhote did not believe the resemblances shown by hybrids to one or the other species were due to reversion, but merely to variation. This number also contains a paper entitled "Notes on the Mammals and Birds of Liberia," by Sir Harry H. Johnston, G.C.M.G., &c.

After a short sketch of the fauna of Liberia he gives a list of mammals and one of the birds collected by Mr. Harold Reynolds (by Charles Chubb, Zool. Dept. British Museum). We see that *Chrysococcyx cupreus* (Didric) is not often met with in Liberia.

(14) THE October (1905) number of the same Journal contains an important article on the "Osteology of the Eurylæmidæ," by W. P. Pyecraft, F.Z.S., M.B.O.U., and one on the "Anatomy of Limicoline Birds," by Dr. P. C. Mitchell, M.A. (Sec.).

(15) WE have received the following publications from the U.S. Department of Agriculture, Washington :— ‘Farmers’ Bulletin,’ No. 230 ; ‘Game Laws for 1905’ ; ‘Game Protection in 1904,’ and ‘Some Benefits the Farmer may derive from Game Protection,’ both by T. S. Palmer, Assistant, Biological Survey, U.S.A. ; Bulletins 21 & 24 Biological Survey. ‘The Bobwhite and other Quails of the U.S. in their Economic Relations,’ and the ‘Grouse and Wild Turkeys of the U.S. and their Economic Value,’ both by Sylvester D. Judd, Assistant, Biological Survey. These pamphlets are very interesting and serve to show the great importance attached to agriculture and its adherent sub-departments in the United States. The following extract from the letter of the Chief of the Biological Survey (Dr. C. Hart Merriam), transmitting the report on Grouse and Turkeys to the Secretary of Agriculture, will be of interest to anyone :—“From the earliest settlement of the country to the present time these Game-birds have been of great economic consequence. Their value as food was early recognized, and they played an important rôle by furnishing the pioneers with no small part of their fare. When found by the Spaniards domesticated among the Indians of Mexico, the importance of the Turkey was at once perceived, and the bird was soon carried all over the world. It is only in comparatively recent times, however, that the economic value of Grouse and Turkeys as insect destroyers has been recognised. The results of the present investigations should lead to a wide knowledge of the essential part these birds play in checking the increase of noxious weeds and insects and the importance of preserving them and of increasing their numbers.” The pamphlet is illustrated by a coloured and a plain plate and gives complete records upon the natural history, feeding, preservation, and breeding of each species in detail.

The other pamphlet on the Quails is equally interesting ; in the words of Dr. Merriam :—“The chief purpose of the present paper is to consider the Quails in their economic relations to the farmer—relations not so well understood as

they deserve to be. Investigation shows the birds to be no less important in their economic than in their other relations to man. They are found to be exceedingly valuable allies to agriculture because of the quantity of noxious insects and weed seeds they destroy, while the harm they do is insignificant." These highly instructive and well got up little pamphlets serve to show us what careful investigation can do and are certainly valuable object lessons to us here in S.A.

(16) IN the 'Avicultural Magazine' for Nov. 1905 appears a sensible little article by the Editor (D. Seth-Smith, F.Z.S., M.B.O.U.), on "The Common-sense of Bird Protection." In this paper he points out the limits that should be drawn between ruthless destruction of bird-life on the one hand and narrow-minded "protection at all costs" (not even allowing legitimate scientific collecting), *i. e.* "extremists," on the other. He says: "we fail to see any excuse whatever for collecting the few remaining specimens of a vanishing species to enrich cabinet collections . . ."; and again ". . . of course the collecting of birds in foreign lands, and whose natural history is little known, is deserving of all encouragement . . ." Remarks with which we fully concur.

(17) AN important work on the Avifauna of the Congo Free State, entitled "Remarques sur l'Ornithologie de l'État Indépendant du Congo, suivies d'une liste des espèces recueillies jusqu'ici dans cet État," has recently been published by Dr. Alph Dubois. Four hundred and eighty-three species are enumerated, and the book is illustrated by a valuable series of coloured plates. Several forms quite new to Science are described: *Barbatula rubrigularis*, *Ispidina leopoldi*, *Pseudospermestes goossensi*, and *Francolinus nahani*. This great Belgian possession still offers a great field for ornithological research. The work is published in Brussels: Spineux et C^{ie}, 1905. Large 4to.

(18) WITH the issue of the second part of the third volume

of Professor Anton Reichenow's 'Die Vögel Afrikas' is concluded a most important contribution to the Standard Ornithological publications of the world. It is not easy for the lover of Nature, whose liking for Field Natural History and perhaps a special taste for ornithology may perhaps occupy occasionally a few leisure hours snatched from a busy week of professional work, to realize that the whole life-work of some men is devoted solely and entirely to the study of that Science to which the amateur lends a casual though deep interest; nor is it possible, unless one happens to be brought into close personal contact with the life and work of the leading ornithological specialists, to fully appreciate the vast knowledge which such specialists obtain during the course of their life-long studies and the huge gulf which separates such knowledge from the cursory acquaintance with Birds which is possible to the non-professional ornithologist. Dr. Reichenow's name is one which is known and respected throughout the world, and with the completion of his monumental work he has finally sealed his reputation as one of if not the foremost ornithologists of all time. The three volumes, each of which consists of some six to eight hundred pages of text, which are completed by a fourth volume of coloured plates and maps, deal with all the known species of Birds which occur in the Continent of Africa—2381 in number.

It is, of course, not a final work; much, very much, still remains for future explorers; many great areas of vast extent still remain practically unexplored; many parts (indeed most) of Africa have not yet been more than casually worked; many actual species and forms may have found their way into the Museums of Europe, America, and South Africa but of the life-history of African Birds Science is still, in; the vast majority of cases, woefully ignorant.

As a basis for future investigation Dr. Reichenow's publication must always hold a classic and permanent position, and although to those who unfortunately are in the unhappy position of being unable to read the German language this work will be at present more or less useless, to the lucky

scholars of that scientific tongue the volumes will prove of inestimable service. The present volume is published by J. Neumann, of Neudam, at £3 10s. 0*d.* net.

(19) ATTENTION may perhaps be drawn to the recently published work on 'The birds of Tunisia, being a History of the Birds found in the Regency of Tunis,' by Mr. J. I. S. Whitaker, F.Z.S., M.B.O.U. It includes a description of some 355 species and is illustrated by fourteen coloured plates besides other illustrations. It constitutes a very valuable contribution to the works on African avifauna. Price £3 3s. 0*d.* net. R. H. Porter : 2 vols. : London.

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LIST OF MEMBERS

AS AT 1ST OCTOBER, 1906.

No.	Year of Election.	Name and Address.
1	1904	AITCHESON, C. S.; Inspector of Schools, Johannesburg, Tvl.
	,,	ALEXANDER, J. A., F.R.S.E.; Director of Agriculture, Campagnia de Moçambique, <i>via</i> Beira, Portug. East Afr.
	1905	ANDERSSON, C. L.; P.O. Box 2162, Johannesburg Tvl.
	,,	AYRES, IVAN; Distributor of Stamps' Office, Pretoria, Tvl.
5	1904	BAIN, CHAS. A. O.; P.O. Box 267, Johannesburg, Tvl.
	1906	BELL, THEODORE; Downside, Epsom, Surrey, England.
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THE Editors invite contributions on South African Ornithology from all students.

Drawings (which, for the purpose of ease of reproduction, should be, as far as possible, in line and without wash) and photographs from nature will be gladly welcomed. Original MSS., drawings, and photographs will, if desired, be returned, after publication, to their owners.

The Editors will be pleased to receive from contributors short extracts from concurrent literature or accounts of the Meetings of Associations dealing with South African Ornithology or of general interest to the Members of the Union.

All documents intended for publication should be forwarded to A. HAAGNER, Esq., Dynamite Factory, Modderfontein, Transvaal.

This Journal will be issued as often as the funds of the Union permit, subject, of course, to there being sufficient matter suitable for publication.

Ten copies of every paper published in the Journal will be reserved for the author free of charge, and fifteen further copies will be retained by the Editors and will be available for purchase by Members of the Union at low prices varying according to the length of the printed matter.

The Editors will be pleased to answer, to the best of their ability, through the medium of this Journal, any questions relating to ornithological matters, and to identify ornithological specimens submitted to them.

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