

## EXHIBITIONS AND NOTICES.

March 17, 1914.

Prof. E. A. MINCHIN, M.A., F.R.S., F.Z.S., Vice-President,  
in the Chair.

The SECRETARY read the following report on the additions to the Society's Menagerie during the month of February 1914 :—

The number of registered additions to the Society's Menagerie during the month of February was 157. Of these 95 were acquired by presentation, 14 by purchase, 20 were received on deposit, 5 in exchange, and 23 were born in the Gardens.

The number of departures during the same period, by death and removals, was 188.

Amongst the additions special attention may be directed to :—

1 Pigmy Antelope (*Neotragus pygmæus*), from Accra, Gold Coast, new to the Collection, presented by E. B. Reece on February 4th.

2 Urial Sheep (*Ovis vignei*), from Jhelum, presented by Capt. T. H. Scott on February 5th.

1 Wild Boar (*Sus scrofa*), from Antioch, presented by the Officers of H.M.S. 'Duke of Edinburgh' on February 25th.

1 Colpeo Dog (*Canis culpæus*) and 1 Salt-Desert Cavy (*Dolichotis salinicola*), from Cordova, presented by Wilfred A. Smithers, C.M.Z.S., on February 4th.

1 Slow Loris (*Nycticebus tardigradus*) and 2 Finlayson's Squirrels (*Sciurus finlaysoni*), from Koh Si Chang, Siam, presented by Commander Robert E. Buske-Peel on February 27th.

1 Graceful Mocking-Bird (*Mimus gilvus*), from Central America, new to the Collection, presented by Hubert D. Astley, F.Z.S., on February 3rd.

2 Tooth-billed Tanagers (*Pyrranga bidentata*), from Central America, new to the Collection, received in exchange on February 11th.

2 Cinnamomeous Kestrels (*Cerchneis cinnamomina*), from Cordova, Argentina, new to the Collection, presented by Wilfred A. Smithers, C.M.Z.S., on February 4th.

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Mr. G. C. ROBSON, B.A., read a report on Mollusca from Dutch New Guinea collected by the British Ornithologists' Union and Wollaston Expeditions. In general, the collection appears to endorse Hedley's views as to the Oriental affinities of the Papuan molluscan fauna. Though numerically small in species and individuals, the collection has yielded two new genera and three new species, the anatomy of all of which is described. The two new genera, which were obtained from considerable altitudes, viz. 10,500 ft. and 14,200 ft. respectively, are of considerable



interest, though their precise affinities are as yet uncertain. In any case they cannot be regarded as typical members of the Zonitidæ, though an aggregate of anatomical characters exhibits the characters of that family. An account of the anatomy of *Papuina lituus* (Lesson) is given, and discrepancy between the anatomical and conchological relationships of a new species of *Papuina* is discussed.

This paper has been published in the TRANSACTIONS.

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Mr. K. G. BLAIR, B.Sc., read his report on the Heteromerous Coleoptera collected by the British Ornithologists' Union and the Wollaston Expeditions in Dutch New Guinea.

The most interesting feature of the collection, from the point of view of distribution, is the occurrence of *Cissites maxillosa* Fab. in this region. This beetle has been hitherto regarded as peculiar to the Oriental Region, its range extending from Assam to Java, Borneo, and the Philippine Islands; it has also been found in Ceylon.

The three species of *Amarygmus* belong to a section of the genus that makes New Guinea its headquarters; a few species of this section are found in the extreme north of Australia, but the majority of the Australian species belong to other groups.

Of the fourteen species noted, seven are described as new.

This paper will be published in the TRANSACTIONS in due course.

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#### *Palatal growth in mouth of Camel.*

Mr. R. H. BURNE, M.A., F.Z.S., exhibited a specimen of the palate of a female Bactrian Camel (*Camelus bactrianus*) and a lantern-slide of a dissection of the throat of a male Common Camel (*Camelus dromedarius*)\* (text-fig. 1), and drew attention to a pendulous outgrowth from the roof of the mouth.

This outgrowth or palatal appendage is situated several inches in front of the free posterior border of the palate and is continuous on either side with the anterior pillars of the fauces. It is rudimentary in the female, but of large size in the male where it forms a great flaccid mass of tissue 11 inches (28 cm.) long, hanging down the throat for some distance beyond the larynx.

Short accounts of this appendage are to be found in many of the older anatomical text-books†, and it has recently been briefly described by Prof. Lesbre in his monograph on the anatomy of the Camel‡.

It is a secondary sexual organ which during rut, when the animal is excited, is protruded from the mouth "to the accom-

\* R. Coll. Surg. Museum No. 1497, Physiol Series, Hunterian specimen.

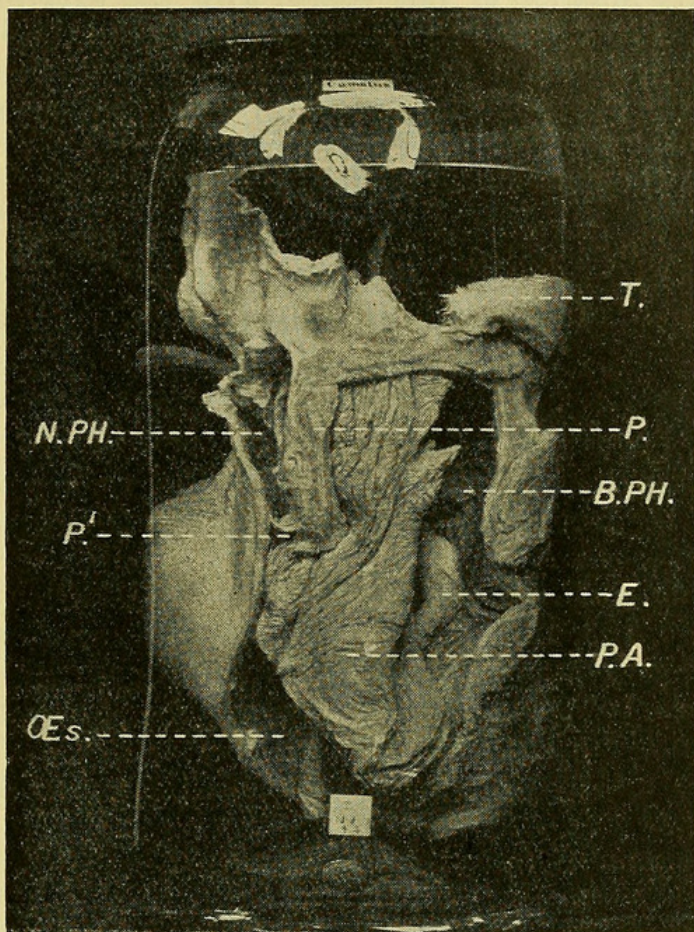
† Buffon, Cuvier, de Blainville, Owen, Milne Edwards.

‡ Lesbre, Arch. Mus. Hist. Nat. Lyons, t. 8, 1903.



paniment of an abominable gurgling noise" as a "thin membranous bladder . . . until it is as large as the animal's head" \*.

Text-figure 1.



Pharynx of Camel, opened from the right side.

*B.P.H.*, buccal pharynx; *E.*, epiglottis; *N.P.H.*, naso-pharynx; *Œs.*, oesophagus; *P.*, soft palate (cut edge); *P.'*, posterior free margin of soft palate; *P.A.*, palatine appendage; *T.*, base of tongue.

From published descriptions of the process and from remarks made by Prof. Minchin and others at the meeting, it appears as though the appendage were protruded by inflation with air, but a careful examination of the specimen figured above revealed no hole or passage leading from the naso-pharynx or elsewhere through which air could be forced into the interior of the organ. The only indication of anything of the kind was a shallow cleft or recess in the mid-line of the floor of the naso-pharynx above the root of the appendage. But the size of this pit (3.5 cm. long and 2.5 cm. deep) even allowing for considerable powers of distension, was not great enough to suggest that it could by any possibility be sufficiently blown out to fill the whole interior of the appendage.

\* Spencer & Gillen, *Across Australia*, 1912, vol. i. p. 38, fig. 17.



Judging by feel and by the parts of the interior of the appendage exposed by cuts, it would appear that the organ is solid and composed of very delicate, loose, areolar tissue. Injection of water or air through a cut upon the surface caused immediate and extensive inflation of this tissue, with the exertion of very little force. Protrusion may, therefore, be due to the infusion of fluid (lymph ?) into the substance of the organ, though possibly inflation of the above-mentioned pit in the naso-pharynx may be accessory to the protrusion by exerting pressure upon the fluids contained in the more distal parts of the appendage.

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*On the Feet of Domestic Dogs.*

(Text-figures 1-3.)

Mr. R. I. POCOCK, F.R.S., F.L.S., F.Z.S., Curator of Mammals, exhibited a series of lantern-slides illustrating some points in the structure of the feet of domestic breeds of dogs (*Canis familiaris*), and remarked:—

“According to F. Cuvier and Geoffroy St. Hilaire (Hist. Nat. Mamm. ii. no. 166, 1820), the interdigital integument of Newfoundland dogs extends almost to the claws and widens to such an extent as to make the feet palmated. In this respect, according to these authors, the feet of this breed differ from those of the majority of breeds in which the web in question is of small extent and reaches only as far as the origin (proximal end) of the second phalanx; but, they add, ‘the peculiarity found in the Newfoundland dog is not restricted to that breed, but is observable in several of our [French] breeds, and especially in those not belonging to the category of running dogs.’ St. Hilaire restated the fact about the feet of the Newfoundland dog in 1862 (Hist. Nat. Gén. iii. p. 450).

In ‘The Variation of Animals and Plants under Domestication,’ i. p. 49, ed. 1905, Darwin, after referring to St. Hilaire’s later work, wrote: ‘In two Newfoundland Dogs which I examined, when the toes were stretched apart and viewed on the underside, the skin extended in a nearly straight line between the outer margins of the ball of the toes, whereas in two terriers of distinct sub-breeds, the skin viewed in the same manner was deeply scooped out.’

This description is not very intelligible. It neither confirms nor contradicts Cuvier’s statement, because the point on the margin of the balls of the toes to which the skin was attached is not given. Moreover, no web can extend between the outer margins of the toes. It must stretch across the middle line between the third and fourth toes, and from the outer margins of the latter to the inner margins of the second and third, respectively. Setting these difficulties aside, however, it will be seen that Darwin did not allude to any difference between the



feet of Newfoundlands and terriers with respect to the forward extension of the skin between the digits.

He also referred to a record by Mr. Greenhow of the occurrence in Canada of a peculiar dog with 'half-webbed feet' which was 'fond of the water' (Loudon's *Mag. of Nat. Hist.* vi. p. 511, 1833), and quoted Mr. C. O. Groom Napier to the effect that the hind feet of otter-hounds are more webbed than those of harriers and blood-hounds ('*Land and Water*,' ii. p. 270, 1866).

Darwin, it may be added, attributed this alleged peculiarity in the feet of water-dogs partly to unconscious selection by man and partly to the inherited effects of use. Finally, as suggestive of the correctness of the above-mentioned statements respecting the webbing of the feet of Newfoundland dogs, we find 'well-webbed feet' enumerated amongst the show-points of this breed (J. J. Cooper, '*The Kennel Encyclopædia*,' iii. p. 942, 1908).

On the other hand, so long ago as 1861 or thereabouts, J. G. Wood wrote (*Illustrated Nat. Hist.* i. p. 271): 'Some people fancy that the Water Spaniel possesses webbed feet, and that its aquatic prowess is due to this formation. Such, however, is not the case. All dogs have the toes connected with each other by a strong membrane, and when the foot is wide and the membrane rather loosely hung, as is the case with the Water Spaniel, a large surface is presented to the water.' Now since it is generally admitted that the Newfoundland belongs to the same group of dogs as the Water Spaniel, it is difficult to find any reason why the larger form should have better-webbed feet than the smaller, since both are what are called 'water-dogs.' Be it remembered, too, that Cuvier's statement about the feet of Newfoundlands does not refer to the 'looseness' of the interdigital web, but to its extension along the edges of the pads nearly up to the claws; and, as quoted above, this author asserted the existence of similar webs in other European breeds excluded from the category of running dogs.

Being unable to procure the feet either of a Newfoundland dog or Otter-hound, I wrote to Mr. J. Sidney Turner, M.R.C.S., F.L.S., about the former breed and I venture to quote his reply. 'There is no doubt that Cuvier's statement that the feet of Newfoundland dogs are more webbed than those of other dogs is a pure myth. I have heard the same statement made about Otter-hounds, but that is of course also wrong. The fact is, that both these breeds have rather larger or longer feet than usual compared with Mastiffs and Foxhounds. I mean that the feet are not so compact and drawn up, and therefore the webbing is rather more apparent, but it extends no farther along the phalanges of the toes.' This is practically what J. G. Wood said about the Water Spaniel. And to clinch the matter so far as the Newfoundland is concerned, Mr. Vero Shaw, the only modern author, as Mr. Turner informed me, to mention the matter, wrote: 'The feet must be broad and flat. The vulgar opinion that the dog is web-footed . . . has no other foundation in fact



than that the toes of all dogs are connected by a skinny membrane, but it does not extend to the point of the toes as in web-footed birds' (Cassell's 'Book of the Dog,' p. 69, 1881).

Since, however, the authoritative testimony of Cuvier and Geoffroy St. Hilaire can hardly be dismissed in the summary and concise manner adopted by Mr. Shaw, and since zoologists are sure to consult Darwin for information on a point of this kind, and to accept as true the uncontradicted statements of others contained in his volume, I think it may be useful to publish in our 'Proceedings' figures and descriptions of the feet of some of our breeds of dogs, to show the actual extent of the interdigital web. To ascertain this the hairs, long or short, clothing this web and growing between the pads in all domesticated dogs, have been cut away, and the figures here published are taken from the paws after clipping. The drawings are partially diagrammatic in the sense that the digital pads are represented as lying in the same plane as the rest of the lower surface of the foot, whereas, naturally, they incline upwards in a plane of varying steepness, according to the breed. One or two additional points in which the feet have been modified by selective breeding, or in correlation with other features, have also been referred to.

I was induced in the first instance to look into the question of the alleged palmation of the feet of Newfoundland dogs and of some European breeds, by finding that the feet of various wild species of the family belonging to several valid and nominal genera of so-called wolves, jackals, and foxes, only differ to a small degree, *inter se*, in the extension of the web along the edges of the digital pads\*. The feet of some species, it is true, are more webbed than others in the sense that the toes are more widely separable, but this is attributable to the greater width of the integument connecting adjacent toes and permitting their wider separation.

For the material examined for the purpose of this notice, I am indebted partly to Mr. A. J. Sewell, M.R.C.V.S., partly to Mr. R. E. Holding, but mainly to Mr. B. Gorton, M.R.C.V.S., the Society's Veterinary Surgeon. The series comprising, I think, the extremes of modification met with in the dogs, with the exception possibly of the Dachshund, which I have been unable to procure, shows that the feet differ remarkably in length from the wrist to the digital pads, in the length of the digits, the width, length, and shape of the plantar pad, the width across from the second to the fifth toes and the length of the hair between the pads, and other minor features; but very little in the extent to which the hair spreads over the pads, and scarcely at all in the extension of the web along the margins of the digital pads.

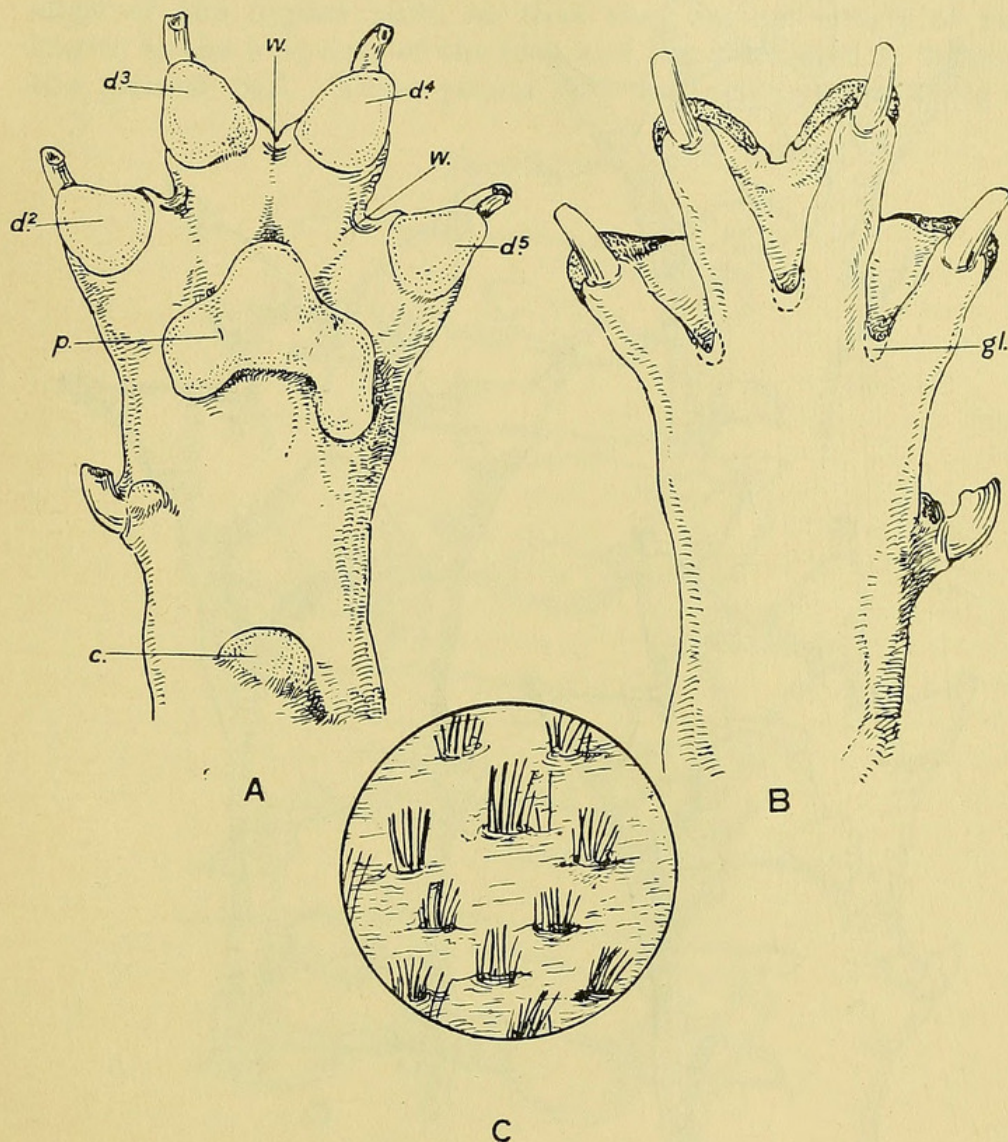
The web passes between the inner proximal angles of the third and fourth digital pads, and from the inner proximal angle of the

\* There is only one exception to this, which I shall refer to in a subsequent publication.



second and fifth to the outer proximal angles of the third and fourth. The edges of the web are thick and elastic, and the elasticity keeps the toes in a compact mass when the foot is slack, but permits their separation under the weight of the standing

Text-figure 1.



A. Left fore paw of Clumber Spaniel, from below.

*c.*, carpal pad; *p.*, plantar pad; *d2*, *d3*, *d4*, *d5*, digital pads of second, third, fourth, and fifth digits; *w.*, web.

B. The same, from above.

*gl.*, glandular pocket at base of digits.

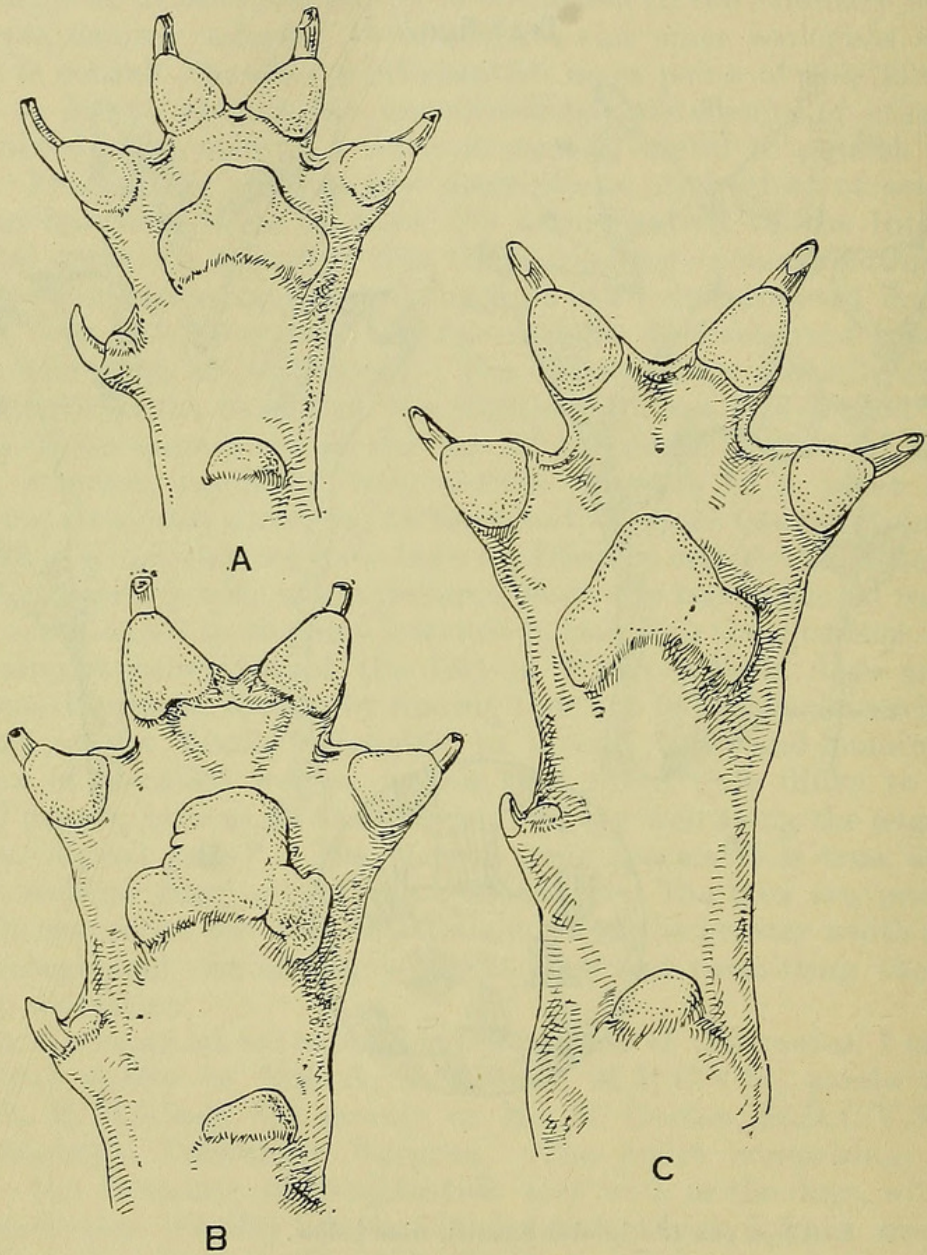
C. Piece of integument of the interdigital web, showing tufted growth of hair (diagrammatic, the hairs cut quite short).

animal and particularly under the pressure of running. The dog cannot voluntarily expand its toes by overcoming this elasticity when the foot is lifted and, as Mr. Sidney Turner pointed out to me, pressure against the water in swimming is insufficient for the



purpose. Hence the webs themselves can be of little, if any, service for aquatic progression.

Text-figure 2.



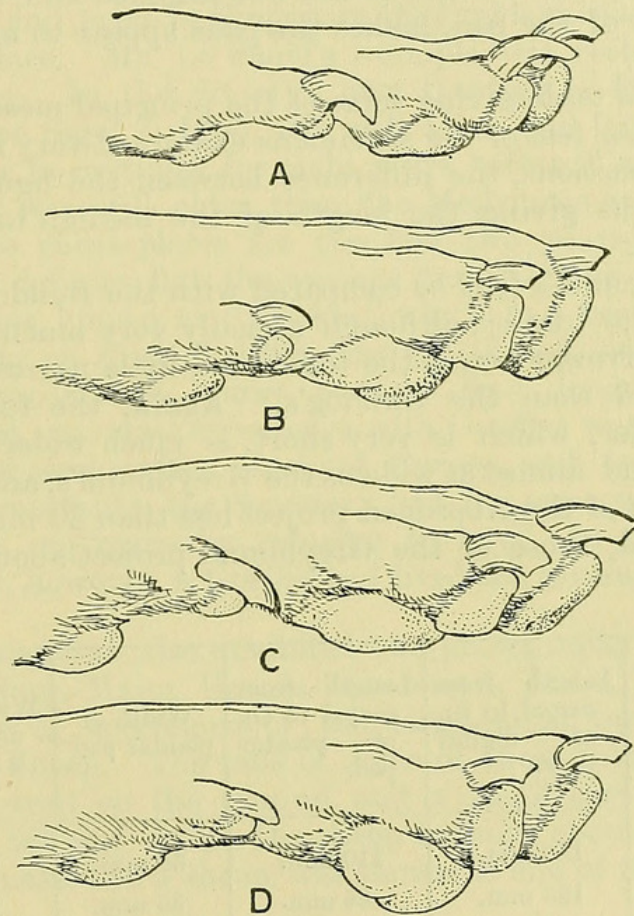
- A. Left fore paw of Aberdeen Terrier, from below.
- B. The same of Bulldog.
- C. The same of Greyhound.

Both the under and upper sides of the web are highly glandular, and on the upper side there is a little naked pocket in the angle formed by the junction of the third and fourth and fourth and fifth toes. This is sometimes absent, and always much shallower, between the second and third toes. The hair clothing the web grows in little tufts from crater-like depressions. The plantar pad varies considerably in length and width, according to the



length and width of the foot. It is comparatively long, for example, in the Greyhound, and broad in the Aberdeen Terrier. The foot of the latter is exceedingly short, owing mainly to the extreme abbreviation of the third and fourth toes, in accordance with the modern fashion for shortening the feet and aligning the metacarpus with the radius. This fashion has also changed the slope of the digital pads, so that they incline nearly at right angles to the long axis of the foot, and has thickened or deepened the plantar pad. These points may be seen by comparing the

Text-figure 3.



- A. Left fore paw of Aberdeen Terrier, from its inner side.
- B. The same of Bulldog.
- C. The same of Clumber Spaniel.
- D. The same of Airedale Terrier.

profile figures of the feet of the Airedale and Aberdeen Terriers and the Bulldog with that of the Clumber Spaniel, which, in the inclination of the digital pads and the depth of the plantar pad, shows more resemblance to the paw of a wolf. The largest and the smallest feet examined were respectively those of a St. Bernard and of a Manchester terrier. The former do not differ materially from those of the Clumber Spaniel, except that the median digits are shorter and approach those of the Aberdeen Terrier.



A feature of the Greyhound's foot is the length of the third and fourth digits and the width of the intervening web which permits their wide separation. In this sense, the fore foot\* of this breed is more fully webbed than that of any dog examined; and the wide divarication and length of these digits make the web between them and the second and fifth digits appear to be more deeply and widely scooped out or emarginate than in other breeds. In the Bulldog the web between the third and fourth digits appears to extend farther along the inner edges of the pads than in other dogs; but this is due to the circumstance that a small triangular area of the skin adjoining the inner angles of these pads behind the margin of the web is naked and, simulating the integument of the pad, makes the pads appear to meet across the middle line.

The subjoined table giving some of the principal measurements will show how the feet of the specimens examined vary in relative and actual proportions, the difference between the figures in the first two columns giving the length of the median toes beyond the plantar pad.

If the Greyhound's foot be compared with the Bulldog's it will be seen that the former, although actually very much longer, is considerably narrower across the toes and a little narrower across the plantar pad than the Bulldog's. Again, the foot of the Aberdeen Terrier, which is very short, is much wider than the Pomeranian's and almost as wide as the Greyhound's, and whereas the median toes of the Aberdeen project less than 20 mm. beyond the plantar pad, those of the Greyhound project about 40 mm. beyond it."

	Length from carpal to tip of digital pads.	Length from carpal to tip of plantar pad.	Width of plantar pad	Width across digital pads 2 and 5.
St. Bernard .....	150 mm.	110 mm.	55 mm.	70 mm.
Greyhound .....	125 mm.	84 mm.	35 mm.	48 mm.
Retriever .....	118 mm.	80 mm.	38 mm.	50 mm.
Clumber Spaniel ...	95 mm.	68 mm.	38 mm.	50 mm.
Sheepdog .....	100 mm.	70 mm.	38 mm.	48 mm.
Pomeranian .....	75 mm.	53 mm.	27 mm.	35 mm.
Airedale Terrier ...	90 mm.	63 mm.	35 mm.	47 mm.
Bulldog .....	83 mm.	60 mm.	38 mm.	55 mm.
Aberdeen Terrier ...	63 mm.	45 mm.	35 mm.	45 mm.
Manchester Terrier.	53 mm.	37 mm.	18 mm.	28 mm.

\* I was unable to get the hind foot of this dog.



April 7, 1914.

Prof. E. W. MACBRIDE, M.A., D.Sc., F.R.S., Vice-President,  
in the Chair.

The SECRETARY, Dr. P. CHALMERS MITCHELL, F.R.S., exhibited the photograph of a female Orang-utan (*Simia satyrus*), kindly sent to him by Mr. W. H. D. Le Souëf, the Director of the Zoological Gardens at Melbourne. According to the statement of Mr. Le Souëf, this Ape had lived in the Gardens at Melbourne for twelve years in an open-air enclosure attached to a shelter without any artificial heat. Orangs were notoriously difficult to keep alive in captivity, and even in Singapore they seldom lived for two years after capture. Mr. Le Souëf's example was certainly extremely interesting. In the Society's own Gardens, a fine male Orang, obtained on Sept. 7, 1905, was still alive, and it was reported to have been in captivity for eight years before it came to London, so that it was still older than the Melbourne example and had shown the cheek-plates for the last two years. Chimpanzees were less delicate, but the average duration was not good. The Chimpanzee known as "Mickie," which had been purchased by the Society on April 6, 1898, was still living, and certainly was the Anthropoid Ape known to have lived longest in captivity. The almost universal experience with Gorillas was that they lived only a few weeks after reaching Europe, and, in consequence of this high mortality, the Secretary had for some years declined to encourage importers by refusing to buy. In one Continental Collection, however, a Gorilla had lived for several years.

The SECRETARY also exhibited two photographs recently sent to him by Surg.-Major George Henderson, M.D., F.L.S., showing a number of specimens of the large-tailed variety of Punjab Domestic Sheep. The tails of some of these animals are so large that they trail on the ground, and a small cart is provided to carry the tail and enable the sheep to move about. One of these carts, harnessed to a sheep, was shown in one of the photographs.

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Dr. W. T. CALMAN, F.Z.S., read a report on the River-Crabs (Potamonidæ) collected by the British Ornithologists' Union and Wollaston Expeditions in Dutch New Guinea, containing the descriptions of two new species.

This paper has been published in the TRANSACTIONS.

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Mr. OLDFIELD THOMAS, F.R.S., F.Z.S., read a report on the Mammals collected by the British Ornithologists' Union and Wollaston Expeditions in Dutch New Guinea.

The species obtained numbered 31, of which the types of 12 had been brought home by the Expeditions.



The two Expeditions had obtained a very valuable series of ground-animals, notably of the genus *Uromys*, but there seemed to be, in the part of New Guinea explored, a remarkable absence of arboreal species, these forming in other parts of New Guinea a large proportion of the mammal fauna.

No species were now described as new, as the novelties had been already published in previous papers.

This paper has been published in the TRANSACTIONS.

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April 21, 1914.

Dr. HENRY WOODWARD, F.R.S., Vice-President,  
in the Chair.

The SECRETARY read the following report on the additions to the Society's Menagerie during the month of March 1914:—

The number of registered additions to the Society's Menagerie during the month of March was 109. Of these 20 were acquired by presentation, 29 by purchase, 32 were received on deposit, 16 in exchange, and 12 were born in the Gardens.

The number of departures during the same period, by death and removals, was 217.

Amongst the additions special attention may be directed to:—

2 Grévy's Zebras (*Equus grevyi*) ♀ ♀, from Abyssinia, purchased on March 2nd.

3 Indian Antelopes (*Antilope cervicapra*), presented by H.M. THE KING on March 2nd.

1 Eland (*Taurotragus oryx*) ♀, born in the Menagerie on March 3rd.

1 Ibean Potto (*Perodicticus ibeanus*), new to the Collection, deposited March 2nd.

2 Blue-cheeked Amazon Parrots (*Chrysotis versicolor*), from St. Lucia, presented by E. J. Cameron, C.M.G., on March 2nd.

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The SECRETARY announced that the following recommendation from the Committee of Publication was considered by the Council at their meeting held on April 15th last, and adopted:—

#### AFTERNOON SCIENTIFIC MEETINGS.

The Publication Committee beg to report to Council the result of a post-card ballot on the question of afternoon meetings for Scientific Business.

Notices and ballot-cards were sent to attendants at the Scientific Meetings during the last two years, and to all the members to whom the 'Abstracts' are regularly sent, the total number being 195.



150 replies have been received, and of these 109 are in favour of the change, 39 are against it, and 2 are indifferent.

The Committee therefore recommend that, commencing with the new Session in October 1914, the Meetings for Scientific Business shall be held on Tuesdays at 5.30 P.M., the usual refreshments being served from 5 to 5.30 P.M., and the Publication Committee meeting at 5 P.M.

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Mr. D. SETH-SMITH, F.Z.S., Curator of Birds, exhibited the egg of Mantell's Kiwi (*Apteryx mantelli*), laid in the Gardens on April 12th. It weighed  $11\frac{1}{2}$  oz., and measured  $4.75 \times 2.75$  inches. The bird that laid the egg weighed only  $65\frac{1}{2}$  oz., considerably less than the weight of a domestic hen, which laid eggs of only  $2\frac{1}{4}$  oz.

Dr. P. L. Selater had recorded the laying of eggs by this species in the Gardens in 1853 and 1860, the weights of which were greater than that of the present specimen, one being  $14\frac{1}{2}$  oz. and the other "somewhat larger" (P. Z. S. 1853, p. 350, and 1860, p. 194), and Sir Walter Buller had recorded the weight of an egg taken in the wild state as 15 oz. 90 grs. (Trans. New Zealand Inst. 1892, p. 85).

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Mr. STANLEY HIRST, F.Z.S., reported on the Arachnida (other than Spiders) and Myriopoda obtained by the British Ornithologists' Union and Wollaston Expeditions in Dutch New Guinea. The collection is only a small one, but contains two new species of Acari parasitic on mammals and three new species of millipedes. A new species of parasitic mite collected by Prof. F. Forster on various mammals in German New Guinea is also described.

This paper has been published in the TRANSACTIONS.

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May 5, 1914.

Dr. HENRY WOODWARD, F.R.S., Vice-President,  
in the Chair.

Surgeon G. MURRAY LEVICK, R.N., gave an interesting account of the manners and customs of Adélie Penguins (*Pygoscelis adelice*), which he had observed at the Cape Adare rookery while with Scott's Antarctic Expedition. He described their mating habits, the making of their "nests," hatching of the eggs, and rearing of the young, and illustrated his remarks with a series of lantern-slides prepared from his photographs.

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*Antlers of Red Deer.*

SIR EDMUND G. LODER, Bt., F.Z.S., exhibited four pairs of antlers of Red Deer (*Cervus elaphus*) and made the following remarks:—

“The Red Deer antlers which I am exhibiting are exceptionally fine specimens. The one from the Carpathians was obtained during the present generation. The horns are very massive and heavy, with long points, and have 20 tines. With a small piece of the frontal bone they weigh  $24\frac{1}{2}$  lbs.

The most celebrated collection of Red Deer antlers is at Schloss Moritzburg, belonging to the King of Saxony. The antlers have been collected during the last 300 years and some of them are certainly older than 1611. Only twelve pairs of antlers weigh more than  $24\frac{1}{2}$  lbs.

Two very fine pairs of antlers which I exhibit were found in a morass in Hungary. It is not easy to guess from the appearance of the bone, etc., how long they had been there, but I do not take them to be prehistoric or of any very great age.

One pair measures 51 in. in length,  $11\frac{3}{4}$  in. round the burr, and 50 in. in greatest outside spread.

The longest Red Deer horns known measure  $53\frac{3}{8}$  in.

The other pair found in the morass has the great outside spread of  $58\frac{3}{4}$  in., and measure  $10\frac{3}{4}$  in. round the burr; with 18 tines.

The fourth pair comes from Germany, and the animal was probably killed many years ago. The horns measure 48 in. in length,  $9\frac{3}{4}$  in. round the burr, and  $51\frac{3}{4}$  in. in greatest spread; with 20 tines.

We have always known that the Red Deer of Persia, Asia Minor, and the Caucasus had longer faces than those of Germany, France, and Britain; and I thought that the faces of the Deer would be longer the farther East one found them, and that in the Carpathians they would be intermediate between those of Germany and Persia—from which country comes the type of *Cervus elaphus maral*.

Quite lately I have had the opportunity of measuring several skulls of deer which had been killed in the Caucasus and in the Carpathians, and I found them practically identical in their proportions and with equally long faces.

The measurements taken are the distance between the lower edges of eye orbits, and from occipital crest to end of pre-maxillaries.

Roughly, I find in the short-faced type the ratio is 1 to 3.3, and in the long-faced type 1 to 3.6. I do not attach any great weight to these figures as the material has been so limited.

I have hunted up the skulls of Red Deer in the Natural History Museum and measured those which I found, but there are no specimens from France, Germany, Austria, Hungary, or the Carpathians.



It would appear that there may be some place in Hungary where the short-faced type and long-faced type may be found close together.

A book has lately been published by an Austrian gentleman on the Management of Deer Forests, and in this book he mentions that in some part of Hungary two types of Stags are to be met with; he describes one as of a grey colour and the other of a red colour. He says nothing about the shape of the skulls, but I think it is quite probable that the grey-coloured stag may turn out to be the long-faced *Cervus elaphus maral*.

It is much to be desired that more specimens of skulls (with or without horns) should be obtained from different localities."

The following are the weights and measurements (in inches) of the specimens exhibited:—

	Weight of horns.	Length on curve.	Girth of burr.	Girth above burr.	Girth between bez and trez.	Tip to tip.	Widest inside.	Widest outside.	Number of points.
Carpathians ...	24½ lbs.	44½	11½	10¼	7¼	14½	28¾	44½	20
Found in a morass in Hungary.	21 lbs.	51	11¾	9½	7¼	28½	39½	50	14
Found in a morass in Hungary.	23½ lbs.	48	10¾	9¼	7	38	43	58¾	18
Germany .....	18¾ lbs.	48	9¾	8¾	6½	33¼	41½	51¾	20

May 19, 1914.

R. H. BURNE, Esq., M.A., Vice-President, in the Chair.

The SECRETARY submitted the following report on the additions to the Society's Menagerie during the month of April 1914.

The number of registered additions to the Society's Menagerie during the month of April was 244. Of these 172 were acquired by presentation, 35 by purchase, 12 were received on deposit, 3 in exchange, and 22 were born in the Gardens.

The number of departures during the same period, by death and removals, was 153.

Amongst the additions special attention may be directed to:—

2 Elephant-Seals (*Macrorhinus leoninus*) ♂ ♀, from the



Antarctic Seas, presented by H.G. The Duke of Bedford, K.G., Pres. Z.S., on April 6th.

2 Indian Elephants (*Elephas maximus*) ♂ ♂, from India, presented by 'The Daily Mirror' on April 1st.

2 Tigers (*Felis tigris*) ♂ ♀, from Burma, presented by Major F. Bigg Wither on April 27th.

1 Binturong (*Arctictis binturong*), from Malacca, purchased on April 6th.

A Collection of Mammals and Birds, including 2 Bonda's Squirrels (*Sciurus saltuensis bondæ*), 1 Collared Peccary (*Dicotyles tajacu*), 2 White-browed Hares (*Sylvilagus superciliaris*), new to the Collection; 1 Pileated Heron (*Plerodius pileatus*), new to the Collection, 1 Prince Albert's Curassow (*Crax alberti*), and 1 Banded Tinamou (*Crypturus noctivagus*), from Rio César, Colombia, presented by W. K. Pomeroy, F.Z.S., on April 29th.

A Collection of Small Birds from Chili, including Chilian Starlings (*Curæus aterrimus*), Little Saffron Finches (*Sycalis minor*), and others, presented by George H. F. Duncan, F.Z.S., on April 20th.

3 Sharp-nosed Terrapins (*Nicoria nasuta*), from Colombia, new to the Collection, presented by Dr. H. G. F. Spurrell, F.Z.S., on April 28th.

1 Merrem's Xenodon (*Xenodon merremii*), and 1 Neuwied's Viper (*Lachesis neuwiedii*), both new to the Collection, from Cordova, Argentina, presented by Wilfred A. Smithers, C.M.Z.S., on April 28th.

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Mrs. R. HAIG THOMAS, F.Z.S., exhibited a number of skulls, head-skins, and photographs of hornless antelopes found by Mr. A. W. Haig in 1903 on the Dinder River, a tributary of the Blue Nile. There were two varieties, one larger than the other. On his return Mr. Haig submitted the skulls, skins, and photographs to the authorities at the British Museum, who, while admitting a difference in the formation of the skulls, stated their view that the evidence for the existence of hornless antelopes was insufficient and that the specimens shown might have been females.

In 'The Nile Tributaries of Abyssinia,' first published in 1867, Sir Samuel Baker tells us he met with and shot hornless antelopes on the Royan, a tributary of the Atbara, and we read farther on that the animal was already known to science and classified by Rüppell. Thus it is shown that Baker's and Haig's hornless antelopes were found on the same watershed, in a geographical position not a hundred miles apart.

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Mr. D. M. S. WATSON, M.Sc., F.Z.S., exhibited two specimens of *Procolophon trigoniceps*, a Cotylosaurian Reptile from South Africa, and drew attention to certain sexual differences in this species.





Minchin, E. A. 1914. "Exhibitions and Notices." *Proceedings of the Zoological Society of London* 1914, 475–490.

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