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ADVERTISEMENT.

This work is the third of a series of papers intended to illustrate the collections of Natural History and Ethnology belonging to the United States and constituting the National Museum, of which the Smithsonian Institution was placed in charge by the act of Congress of August 10, 1846.

It has been prepared at the request of the Institution, and printed by authority of the honorable Secretary of the Interior.

JOSEPH HENRY,

*Secretary Smithsonian Institution.*

SMITHSONIAN INSTITUTION,

*Washington, February, 1876.*

CONTRIBUTIONS

TO THE

NATURAL HISTORY

OF

KERGUELEN ISLAND,

MADE IN CONNECTION WITH THE UNITED STATES TRANSIT-OF-VENUS  
EXPEDITION, 1874-75.

BY

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PASSED ASSISTANT SURGEON U. S. NAVY.

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## P R E F A C E .

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This bulletin embodies the results of an examination of the eggs contained in my collection, the identification of the plants by the various specialists to whom they had been sent and the determinations of the remainder of the zoölogical collections from Kerguelen Island. The appendix contains a brief description of the collections of Surg. E. Kersbner, U. S. N., in the Chatham and Auckland Islands and in New Zealand; and of Mr. I. Russell, in New Zealand.

The unknown young bird, supposed to be a *Puffinus* (Bull. No. 2, pp. 26 and 27), proves to belong to *Æstrelata lessoni*; and many of the eggs, being new to museums, present points of greater or less scientific interest.

The botany of Kerguelen Island had already, as is well known, been very thoroughly studied by Dr. J. D. Hooker, in connection with Sir James Clarke Ross' Antarctic Expedition (1839-'41). His great monograph upon this branch of natural history, the *Flora Antarctica*, has left little for the botanical collector to do in that field, and, magnificently illustrated as it is, was of constant service to me while on the island. But seventeen flowering-plants are included in the collection, belonging to eleven natural orders; four of these being grasses. Three varieties of *Ranunculus* are added to Dr. Hooker's list, while two Phænogams attributed by him to the locality (a *Juncus* and *Limosella aquatica*) were not found. Since, however, this distinguished observer did not have an opportunity of visiting the island during the season of flowering, many of these specimens have their weight in determining points which still remained doubtful in his mind; notably with regard to *Lyallia Kerguelensis*.

Other plants not heretofore attributed to this locality are: *Polypodium vulgare*, *P. (Grammitis) australe*, and *Cistopteris fragilis*, among Ferns; *Grimmia frondosa* (new species) and *G. kidderi* (new species), among Mosses; *D'Urvillea harveyi*, *Rhodomela gaimardi*, *Callithamnion ptilota*, and *Codium adhaerens*, among Sea Weeds; and *Pannaria taylora*, *P. glauccella*, *Placodium bicolor*, and *Urceolina* (new genus) *kerguelensis* among Lichens.

The zoölogical collections, although comparatively small, contain an unusual number of new genera and species, notably in molluscs, insects, crustaceans, and echinoderms. Descriptions of these have been furnished by Profs. Verrill, S. I. Smith, Dall, Hagen, and Osten-Sacken, and will be found under the appropriate headings. Thanks are due to these gentlemen and to others whose co-operation has added much to the scientific value of this report.

The Bulletin concludes with a study of *Chionis minor*, an unique and little-known bird, with an attempt to establish its proper position in classification.

J. H. K.

SMITHSONIAN INSTITUTION,

Washington, D. C., November 1875.



# OÖLOGY, ETC.

BY J. H. KIDDER AND ELLIOTT COUES.

## CHIONIS MINOR, *Hartl.* (p. 1.)\*

Lays two or three eggs, differing much in color (*auct.* Rev. A. E. Eaton), about January 10, in the crevices formed by fallen rocks. The nest is made of grass-stems (*auct.* Capt. J. J. Fuller, not seen by J. H. K.). But a single specimen was preserved, given by the Rev. Mr. Eaton, and this was badly broken, but has been mended upon a plaster model. The specimen is regularly oval in shape, like a rather small and narrow hen's egg. Seen under a lens, the outermost calcareous layer appears to be deposited in an irregular net-work, upon a substratum of dark slate-color. The shell is thick and of coarse texture. The superficial markings include several shades of dark sepia-brown, disposed in irregular blotches, but arranged, for the most part, longitudinally. These blotches are more plentiful and closely aggregated about the thickest part of the egg than at either end, and overlie a general *café au lait* tint, which proves, under the lens, to be due to the appearance of the dark substratum above mentioned, through the minute areolation of the outer calcareous layer. The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.
	245	2.28 × 1.48

## QUERQUEDULA EATONI, *Sharpe.* (p. 4.)

Lays four or five eggs, about November 15, in a deep hemispherical nest, excavated in the ground, generally near the water, well

\* This reference and others like it, placed after the name-headings, refer to a previous report upon the Birds of Kerguelen Island by Dr. J. H. Kidder, U. S. N., *Bull. Nat. Mus.*, No. 2, 1875.

Measurements of eggs are in English inches and decimals. The lengthwise and crosswise diameters, and, in some cases, the corresponding circumferences, are the dimensions given.

The structure of the egg-shell is described as it appears under a Tolles'  $\frac{1}{4}$ -inch triplet.

concealed by grass, and lined with feathers from the breast of the old bird. The eggs vary in shape from a regular ovoid to an ellipsoid, and differ considerably in size. The shell is thin, smooth (as usual in this family), and compactly homogeneous in structure, showing under the lens only very shallow linear depressions. Color is a uniform pale olive-green. Measurements are as follows, the braces including specimens found together in a single nest:—

Smithson. No.	Orig. No.	Measurements.	Remarks.
17179	123a	1.80 × 1.35	} Set No. 1.
17180	123b	2.00 × 1.40	
17181	123c	2.10 × 1.42	
17182	123d	2.18 × 1.45	
17183	123e	2.10 × 1.49	
17175	154a	1.90 × 1.40	} Set No. 2.
17176	154b	2.18 × 1.50	
17177	154c	2.00 × 1.50	
17178	154d	2.08 × 1.49	

GRACULUS CARUNCULATUS, (*Gm.*). (p. 7.)

Eggs are two or three in number, first found November 5. Nests are built on rocky shelves in the precipitous faces of cliffs overlooking the sea. The base of the nest is built up to a considerable height, sometimes as much as two feet, and is composed of mud, excrement, and decaying vegetable-matter. Upon this pedestal are arranged blades of grass, inclosing a cup-shaped cavity some ten inches across. It would seem that the old nests are used year after year; a new layer being added each season, so that they differ considerably in height. In shape, the eggs are long sharply-pointed ovoids. The structure of the shell is coarsely granular, and the color is an uniform pale green. Externally, there is the usual considerable calcareous deposit, which appears under the lens to be structureless, chalky, and disposed in masses of unequal thickness. It is here and there striated, wrinkled, or otherwise marked, as if deposited in a soft state, and afterward hardened by exposure to the air, leaving the shell proper partly exposed, especially about the smaller end.

The measurements are as follows :—

Smithson. No.	Orig. No.	Measurements.	Remarks.
17195	72a	2.45 × 1.53	} Set No. 1.
17195	72b	2.40 × 1.57	
17195	72c	2.59 × 1.57	
17196	73a	2.60 × 1.62	} Set No. 2.
17196	73b	2.50 × 1.58	
17197	74a	2.40 × 1.55	} Set No. 3.
17197	74b	2.58 × 1.58	

*Young*.—In addition to the remarks already given upon the young of this bird by Dr. Kidder in his previous paper, the following facts are of interest: Much of the under mandible is pale bluish, the chin yellowish, with a transverse line of demarkation from corner to corner of the mouth, the color being sharply defined against the general blackish hue of the body. The horny tip of the bill is light-colored, as is usual, and the bill otherwise very soft. The aperture of the eye is extremely small; lids light-colored. The wings show the very tardy development noticed by Dr. K. in the case of the legs, being extremely small and soft. Another specimen, some eight or ten inches long, shows the same yellowish color of the pouch, abruptly defined against the blackness of the throat; the eyelids being, however, entirely dark. The wings and legs exhibit the same evidence of very tardy development.

BUPHAGUS SKUA ANTARCTICUS, (*Less.*) *Coues.* (p. 9.)

The nests are shallow cavities in the long grass, sparingly lined with grass-stems, and always situated in a dry spot. Eggs are only two in number in the four instances observed; first found November 17. A single egg was found December 20 in a nest robbed December 3. The shape is a very broad ovoid, tapering rapidly to a sharp point. Shell is brittle and of loose texture, being composed of irregularly prismatic bodies set side by side perpendicularly to the surface. Externally it is coarsely granular. Color is dark olive-drab, marked superficially by irregular blotches of Vandyke-brown. Deeper markings appear as blotches of dark bluish stone-color. The blotches are more plentiful over the butt-end. Those of the same nest agree generally in color, but different clutches show considerable variety of tint. Nos. 134 a and b, (original number) for example, are generally of a pale olive-gray, and the blotches are scarcely deeper in hue than dirty Indian-yellow.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.	Remarks.
	117 <i>a</i>	2.80 × 2.15	} Containing embryos.
	117 <i>b</i>	2.91 × 2.18	
17150	134 <i>a</i>	2.85 × 2.00	} Pale specimens.
17150	134 <i>b</i>	2.92 × 2.05	
17149	200	2.70 × 2.10	Second laying.

Nos. 117 *a* and *b*, containing embryos, have been sent to Prof. E. S. Morse for examination.

LARUS DOMINICANUS, *Vieill.* (p. 13.)

Nests are built of grass and sea-weed, near the sea, and are generally wet within. Eggs are three in number, and in shape a pointed ovoid, approaching to pyramidal. The shell is rather stout, brittle, and composed of two distinct layers of about equal thickness. The external layer is coarsely granular in texture, roughly mammillated superficially, and of a dark olive-drab color, blotched by irregular spots of different tints, Vandyke-brown, sepia, slate-color, and brownish-yellow. The slaty markings are within the shell, the others on the surface. As in the case of *Buphagus*, those of the same nest are generally similar in marking, while those of different nests show considerable variety of hue. The internal layer of the shell is closer in texture, of a pale apple-green color, and shows under the lens innumerable small whitish trapezoidal columns set transversely to the surface, in a matrix of a pale-green homogeneous basis-substance. The blotches are more closely aggregated at the large end of the egg than elsewhere, and vary in shade according to their situation, superficial or deep. Some specimens of these eggs are not distinguishable with certainty from those of northern gulls—*Larus argentatus* for example.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.	Remarks.
17151	199 <i>a</i>	2.93 × 1.90	} Set No. 1.
17152	199 <i>b</i>	2.87 × 1.92	
17153	199 <i>c</i>	2.75 × 1.85	
17154	201 <i>a</i>	2.58 × 1.98	} Set No. 2.
17155	201 <i>b</i>	2.53 × 1.92	
17156	201 <i>c</i>	2.58 × 2.00	

The young, a few days old, have the bill black, with yellow tip, the feet dull blackish, webs partly dull whitish. The general plumage is black, mottled with yellowish-brown, much paler, inclining to white, below, as usual in this family of gulls.

In embryos about to be hatched, the bill and feet are nearly colorless; the former somewhat mottled with black. The general plumage, so far as it can be determined from wet preparations, is much as has been already described.

*STERNA VITTATA, Gm. (p. 17.)*

The single egg is laid on high and broken ground, usually under the lee of a tuft of grass, and with little or no preparation. First found November 7. The shell is thin, elastic, and finely granular in texture, of general olive-green color. The ground-color varies widely, as usual in this family of birds, from rather clear green, with a suspicion of drab, to a decided brownish drab. Superficial markings are chocolate-brown of several shades, disposed in irregular spots and blotches, rather more thickly crowded toward the larger end. Deep markings show various shades of bluish slate-color, according to the thickness of the overlying deposit. The shape of the egg is a regular ovoid, and the measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.
17188	61	1.78 × 1.22
17187	75	1.82 × 1.29
17184	76	1.82 × 1.27
17185	77	1.83 × 1.30
17186	78	1.75 × 1.23
17189	96	1.85 × 1.20
	97	1.80 × 1.25
	.	1.70 × 1.27

The young, when first fledged, is yellowish-brown, spotted irregularly with black; its bill, toes, and tarsus dirty-orange, blackening toward tips. Later, the colors grow darker, feet and tarsi becoming orange-red. It is as large as a chick, and very unlike the old bird in marking and general appearance. Specimens of the embryos have been sent to Professor Morse for examination.

*DIOMEDEA EXULANS, Linn. (p. 19.)*

Nests are on tall mounds, built up of grass to the height of two or more feet from the ground, and, being of different heights, seem to have

been used again and added to year after year. The egg is single, elliptical in longitudinal section, and but slightly thicker at the large than at the small end. Only occasional specimens tend somewhat to the ovoid form. The shell is white, of loose granular texture and roughly mammillated surface. There are no markings beneath the superficial calcareous layer, and the spots which appear on this seem to be adventitious stains from the secretions of the oviduct, or accidental soiling after extrusion. Some specimens show a reddish stain upon the larger end, probably dried blood, since it is readily washed off.

The measurements are as follows:—

Smithson. No.	Orig. No.	Length.	Width.	Long circumf.	Short circumf.
17097	222a	4.96	3.18	13.15	9.65
17098	222b	5.08	3.08	13.15	9.70
17099	222c	4.80	3.18	12.90	10.04
17100	222d	5.21	3.25	13.80	10.50
17101	222e	4.80	3.10	12.80	9.60
17102	222f	4.88	3.22	13.10	10.18

No young were hatched previous to January 11.

PHŒBETRIA FULLIGINOSA, (*Gm.*) *Reich.* (p. 21.)

Nests on rocky shelves or in caves in the faces of lofty cliffs where the birds build a conical mound, seven or eight inches high, hollowed into a cup at the top and lined rudely with grass. Egg is single, broadly ovoidal, generally white, marked by a collection of specks about the larger end, somewhat like the adventitious stains on the eggs of *D. exulans*, but, as well as we can judge, less superficial. The shell is compact in structure, rather thin for its size, and superficially smooth to the touch. Under the lens, it is seen to be marked by minute pits and linear depressions, being thus decidedly different, both to the eye and to the touch, from those of *D. exulans*.

The measurements are as follows:—

Smithson. No.	Orig. No.	Length.	Width.	Long circumf.	Short circumf.
17104	52	3.95	2.64	10.50	8.40
17103	86	3.95	2.60	10.50	8.25

An embryo has been sent to Professor Morse for examination.

OSSIFRAGA GIGANTEA, (*Gm.*) *Reich.* (p. 23.)

Lays a single egg on open, rather elevated ground, at some distance (half a mile) from the sea. There was no vestige of an artificial nest when the young were found, January 2. These were then nearly fledged, and quite as large and heavy as the adults, occupying natural hollows between mounds of *azorella*. They are exceedingly filthy birds, ejecting the contents of their stomachs for two or three feet from their bodies, and seeming to have a limitless supply to draw upon. When disturbed, they are soon surrounded by a puddle of vomited matters, and are, in this condition, by no means pleasant birds to collect. Among the ejecta were noticed many Penguin feathers. In the same neighborhood was a young bird of an earlier brood, fully fledged, but not yet able to fly. These Petrels must therefore be among the earliest in laying. The down of the young bird is entirely gray in color, the head is partly naked, and the bill, tarsi, and feet are colored nearly as in the adult, but somewhat paler. The first fully-formed feathers are similar to the adult plumage.

MAJAJUEUS ÆQUINOCTIALIS, (*Linn.*) *Reich.* (p. 25.)

Nests in very deep burrows in hill-sides, generally under a mound of herbage. Near the entrance to the burrow, there is always, so far as observed, a small pool of fresh water. Egg is single, regularly ovoid, and white, without shell-markings of any kind. It is generally, however, much soiled by secretions from the oviduct and dirt from the burrow. The shell is thin, homogeneous, and compact in structure, very smooth to the touch, but under the lens is seen to be marked by small pits and shallow linear depressions.

The measurements are as follows: —

Smithson. No.	Orig. No.	Measurements.
17105	189a	3.00 × 2.10
17106	189b	3.08 × 2.12
17107	189c	3.18 × 2.19
17108	189d	3.17 × 2.17
17109	189e	3.32 × 2.13
17110	189f	3.14 × 2.20
17111	189g	3.26 × 2.17

No young birds were identified as of this species.

ÆSTRELATA LESSONI, (*Garn.*) *Cass.* (pp. 27, 39.)

On pages 26 and 27 of the report preceding this, upon the birds of Kerguelen Island,\* were described a series of undetermined young birds, with the note by Dr. Cones, "Not seen by me—probably some *Puffinus*." Upon examination of the specimens preserved, there remains no reasonable doubt that they are the young of *Æstrelata lessoni*. The bill is that of an *Æstrelata*, and the measurements agree closely with those of *Æ. lessoni*, both from dried skins in the museums of the Philadelphia Academy and Smithsonian Institution, and as taken by Dr. Kidder from the recent specimens. These young birds were found on Kerguelen Island as early as September 15, living in deep burrows in hill-sides. At about the same time, an adult specimen was brought into camp by one of the men attached to the party, with the statement that it had been found with young, but was unfortunately not preserved, and the old birds were not found again until December 29, in a burrow without egg or young. It will be remembered that *Æ. kidderi*, the only other species of the genus known to be found on the island, was taken with egg on October 21, and is thus excluded from consideration. From the Proceedings of the Philadelphia Academy for 1866,† we extract the following description of the young of *Æ. lessoni*:—

"No. 15709, Smiths. Register, Terra del Fuego, T. R. Peale.—Entire upper parts dusky fuliginous-brown; the dorsal feathers usually with somewhat light margins; the color deepening on the wings and back into brownish-black. Some of the secondaries, tertials, and upper coverts have a slight cinereous tinge. On the head and nape, the brown is lighter than elsewhere; and a somewhat diluted shade of this color extends adown the throat, thus completely enveloping the head, and occupies likewise the upper half of the breast, quite across, as well as all the sides under the wings. On the crissum, and especially on all the under tail-coverts, except immediately around the anus, the color again deepens into brownish-black. The rest of the under parts are white. The circumocular region is darker than the adjacent parts.

"The foregoing is the most immature plumage known to me, and it will be noticed that not only the colors themselves, but the pattern of coloration, is radically distinct from those of the adults. In some specimens is recognizable a faint shade of a darker color on the tips of the feath-

\* *Op. cit.* vide note to p. 1 of this report.

† Critical Review of the Family Procellariidæ, part iv, by Dr. Elliott Cones, U. S. A., p. 144.



ers of the otherwise white under parts; whence I infer that in very young birds the whole under parts may be brownish or grayish."

In the more advanced of the two specimens preserved (original No. 62), the entire body is as black as a crow. On the breast, however, and under parts generally, the bases of the feathers show white to near the ends, while upon the crissum and about the head they are grayish. The surmise of Dr. Coues, therefore, with regard to the young plumage, was in the right direction, but did not go far enough. The indications of an adult white and gray plumage are unmistakable.

The very young birds first found were completely covered, as is usual in the family, with slate-colored down. The same covering is plentiful upon the younger of the two specimens preserved (original No. 66), and still distinct upon the elder.

Below are contrasted three sets of measurements, viz: those of adult skins by Dr. Coues, and the young of the same from recent specimens by Dr. Kidder:—

Smithson No.	Orig. No.	Sex.	Length.	Ext.	Wing.	Tail.	Bill.	Head.	Tarsus.	Hind toe.	Longest claw.	Remarks.
.....	.....	.....	.....	.....	11.75	5.25	1.50	.....	1.65	2.00	0.50	Adult skin (Coues).
68969	211	♀	18.15	4.00	12.15	5.85	1.50	2.50	1.85	2.20	0.50	Adult, recent (Kidder).
.....	62	.....	16.00	3.75	12.00	5.40	1.40	2.50	1.65	2.10	0.40	Young, recent (Kidder).

It should be noted that the measurements of tail, bill, head, tarsus, middle toe, and claw of the last specimen were taken from the skin, and are therefore not "recent."

#### ESTRELATA KIDDERI, Coues. (p. 28.)

Nests in deep burrows excavated in a hill side, each burrow containing a little pool of fresh water near its entrance. Egg is single, dull white, and very obtusely ovoid in shape, almost as globose as a Penguin's egg; first found October 11. Shell is thin, brittle, of compact structure, and marked externally by very shallow linear depressions, discernible only by aid of a lens. There are no color-markings.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.
17157	35a	2.18 × 1.77
17158	35b	2.20 × 1.75
17159	35c	(Broken.)

A young bird taken December 13, and much resembling that of *Æ. lessoni*, but far less advanced than the latter at that date, was then attributed to this species, although, the old bird not having been taken at the same time, the evidence was not positive. It made no sound when taken from its burrow. Subsequent examination of the specimen fully confirms this surmise. The bird is still covered with pale slaty down; but the shape of the bill, and especially its narrowness from base to tip, taken in connection with the dates, place the identification beyond a reasonable doubt.

OCEANITES OCEANICA, (*Kuhl*) *Coues*. (p. 30.)

Nests under rocks, usually on pretty high land, laying a single white egg. There are no eggs in the collection; but one was found by Rev. Mr. Eaton, of the English party, on Thumb Mountain, some fifteen miles from the American station, December 8.

PROCELLARIA NEREIS, (*Gould*) *Bp.* (p. 31.)

Nests under tufts of grass, or other low herbage, near the sea. Sometimes it digs a small burrow; oftener the eggs are found simply covered by overhanging grass-stems, in low land. The egg is single, compact in structure, smooth, and very fragile, ellipsoidal in form, and white, excepting at the larger end, which is marked by a collection of small reddish spots interspersed with a few specks of very dark brown. If we are correct in our impression that the markings about the butts of these eggs are not adventitious, we have here an exception to the general rule that the *Procellariidæ* lay white eggs. In size, shape, and coloration, the egg recalls some of the least-spotted examples of that of the common Meadow Lark (*Sturnella magna*). By aid of the lens are to be seen a few pore-like punctations, widely scattered.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.
17194	157	1.30 × 0.95

We have no information concerning the young of this species, none having been hatched at the time of breaking up the American station (January 11).

PSEUDOPRION DESOLATUS, (*Gm.*) *Gray*. (p. 32.)

Nests in the same localities and has the same habits as *Halobœna cœrulea* (q. v.).

HALOBÆNA CÆRULEA, (*Gm.*) *Bp.* (p. 34.)

Nests in deep tortuous burrows in hill-sides near the sea. Egg is single, ovoidal, and dull white, without color-markings. In the specimens measured, there is, however, as shown by the figures, the usual range of variation in contour. They remind one, in size and shape, of the eggs of a bantam hen. Shell is thin, homogeneous, and compact in structure, presenting under the lens a finely granular external surface. First found October 23.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.
17161	49a	2.00 × 1.50
17162	49b	2.08 × 1.44
17163	49c	2.09 × 1.57
17164	49d	2.00 × 1.45
17165	49e	1.90 × 1.50
17166	49f	1.96 × 1.47
17167	49g	1.92 × 1.48
17168	49h	2.10 × 1.46
17169	49i	1.95 × 1.48
17170	49j	2.07 × 1.54
17171	—	2.02 × 1.45
17171a	41	1.91 × 1.52
17172	63	2.08 × 1.43
17173	71	1.90 × 1.47

The newly-hatched young have bill and toes slaty blue, with apparently pale-yellowish webs and brownish-black claws. The horny speck upon the bill is whitish, and situated high above the tip of the bill. The region about the base of the bill is largely denuded. They begin to hatch about November 12.

PELECANOIDES URINATRIX, (*Gm.*) *Lacépède*, (p. 36.)

Lays one egg in a burrow in the hill-side, generally selecting the same locality as *Halobæna cærulea*. Burrow is straight, slanting slightly downward, and less deep than that of *Halobæna*. Egg is a regular ovoid, tending in some specimens to ellipsoidal. First found December 10. Shell is white, thin, brittle, compact, and homogeneous in structure. No color-markings.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.	Remarks.
17191	190a	.....	Badly broken.
17192	190b	1.62 × 1.15	Broken.
17193	190c	1.62 × 1.27	
17174	136	1.66 × 1.26	
17190	152	1.65 × 1.25	

No young birds were found during the visit of the American party to the island.

APTENODYTES LONGIROSTRIS, *Scop.* (p. 39.)

No eggs or young in the collection. It is of this genus that the statement is made that the eggs are incubated in a sort of pouch, formed of a fold of skin, and situated between the tibiæ. The whalers met at Kerguelen Island confirm this statement; but no opportunity for direct personal observation was found during the stay of the transit-party. The male and female are said by the whalers to alternate in carrying the egg around.

PYGOSCELIS TÆNIATA, (*Peale*) *Coves.* (p. 41.)

Had already begun to lay September 10, selecting the top of a mound of *Azorella* (a densely-growing plant common on the island), and scratching therein a shallow cavity. But one egg was found at any time in a nest; yet we have good reason for believing that these Penguins rear two young in a season, laying a second egg about two months after the first, and before the young bird has left the nest. The eggs are obtusely ellipsoid, some specimens being almost spherical; white, with a very pale greenish tint. The shell is thick, inelastic, and friable, covered by a thin layer of calcareous matter that looks precisely as if it had been daubed on with a coarse brush. The specimens preserved, being from a rookery which has been often robbed, are doubtless smaller and thinner-shelled than those of the first laying.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.
17112	5	2.50 × 2.08
17113	6	2.61 × 2.00
17114	7	2.52 × 2.17
17115	8	2.42 × 2.05
17116	9	2.68 × 2.18
17117	10	2.32 × 2.10
17118	11	2.70 × 2.20
17119	12	2.69 × 2.18
17120	13	2.58 × 2.10
17121	14	2.40 × 2.18
17122	15	2.49 × 2.18
17123	16	2.45 × 2.17

Young birds were found just breaking the shell December 4. They are hatched much earlier when the rookeries are not so often robbed: as early as October 12, certainly. When first hatched, the young are covered with soft, hairy, pearl-gray down. Head black above and behind; bill flesh-colored; feet black on the soles and flesh-colored above.

*EUDYPTES CHRYSOLOPHA?* Brandt. (p. 45.)

Begins to lay about the first of December, building among fallen rocks by the sea, making nests which are more complete than those of *Pygoscelis tæniata*, and lining them with dried grass. There are two eggs to a nest, white, with a faint tinge of greenish, obtusely ovoid in shape, and usually one is distinctly larger than the other. The shells are thick, friable, inelastic, and often smeared in parts with calcareous deposit. The external surface is punctured by minute pores, scattered widely apart, but presents no distinct surface-marking.

The measurements are as follows:—

Smithson. No.	Orig. No.	Measurements.
17124	—	2.83 × 2.05
17125	—	2.60 × 2.07
17136	*124c	2.56 × 1.88
17137	124a	2.89 × 2.16
17138	124b	2.39 × 1.92
17139	124c	2.79 × 2.20
17140	124d	2.50 × 1.79
17141	124e	3.04 × 2.18
17142	124f	2.52 × 1.89
17143	124g	2.84 × 2.12
17144	124h	2.58 × 2.00
17145	124i	2.80 × 2.30
17146	124j	2.58 × 1.93
17147	124k	2.80 × 2.11
17148	124l	2.81 × 2.02
17126	134a	2.94 × 2.15
17127	134b	2.82 × 2.19
17128	134c	2.95 × 2.15
17129	134d	2.83 × 2.10
17130	134e	2.32 × 1.80
17131	134f	2.82 × 2.04
17132	134g	2.50 × 1.99
17133	134h	2.86 × 2.10
17134	134i	2.82 × 2.15
17135	134j	2.70 × 1.95
17160	—	2.52 × 1.80

\* Original number duplicated.

*EUDYPTE DIADEMATUS*, Gould. (p. 47.)

We have no direct information concerning the nesting or eggs of these birds. Whalers report that their habits in these respects are precisely similar to those of *E. chrysolopha*, as was to be expected.