

**Notes on a cetaceous animal stranded on the north-east coast of Ireland ;
On the size of the red corpuscles of the blood of the great anteater
(Myrmecophaga jubata) / by George Gulliver.**

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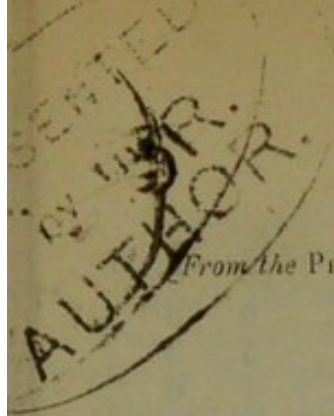
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NOTES ON A CETACEOUS ANIMAL STRANDED ON THE NORTH-
EAST COAST OF IRELAND.

C BY GEORGE GULLIVER, F.R.S.

On Saturday, May 14, 1853, a herd of cetaceous animals appeared at Dundrum Bay, many of which got away, and others were stranded. I saw on the following days about twenty-five of them lying dead there on the sand. The largest was nearly nineteen feet, and the smallest between nine and ten feet long. They were all furnished with perfect teeth. The greater number were females; in a group of nine large ones, lying near together, six were females and three males.

I was told that their death-throes were dreadful; they rose on their tails, bellowed like bulls, floundered about, and spouted bloody sand and water, as they were attacked with different destructive instruments by the peasantry. From one of the animals, between sixteen and seventeen feet long, a perfect fœtus, presently to be described, was taken, so that the breeding time of this species may be considered as now determined. One of them had the iron head of a harpoon imbedded in its back, and the wound completely healed over. In the second large compartment of the stomach were numerous fish-bones, completely denuded of all soft parts by digestion. The following measurements may be useful for future reference:—

Measurements of a Male.

	ft.	in.
Length from the snout to the end of the middle of the tail	18	6
Greatest girth, excluding back fin.	12	6
Length of pectoral fin	5	0
Breadth of base of pectoral fin	1	0
Breadth of pectoral fin at one foot from its point	0	4
Length of base of back fin.	3	0
Height of back fin.	1	2
Breadth of tail from point to point	3	10

Measurements of a Female.

	ft.	in.
Length from snout to end of middle of tail	16	0
Greatest girth, excluding back fin	9	0
Girth one inch behind eyes	5	3
Length of each side of mouth	1	0
From snout to eye	1	6
From eye to blowhole	1	2
From snout to base of pectoral fin	2	10
The blowhole behind a line intersecting the eyes	0	1
From the snout to beginning of dorsal fin	4	11
From the end of the base of the dorsal fin to the end of the middle of the tail	8	6
From snout to vent	10	4
From snout to the orifice of the vagina	10	0
From snout to the mammary slits	10	0
From point of lower jaw to the navel	6	0
From the eye to the angle of the mouth	0	4 $\frac{3}{4}$
The eye above a line drawn from the base of the upper jaw along centre of the sides of the body	0	3
From the knob of the snout to the upper lip . .	0	10
Length of the mammary slit	0	3 $\frac{1}{2}$
Transverse distance from mammary slit to ori- fice of the vagina	0	4
Dorsal fin at its base	2	6
Dorsal fin over its convexity	3	0
Height of dorsal fin	1	2
Length of pectoral fin	3	5
Breadth of base of pectoral fin	0	10
Length of opening of eyelid	0	1 $\frac{1}{4}$
Diameter of eyeball	0	1 $\frac{3}{4}$
Diameter of cornea	0	1 $\frac{1}{8}$
Length of crown of tooth	0	1 $\frac{5}{8}$

Measurements of a Fœtus.

	ft.	in.
Length from snout to the end of the middle of the tail	4	8
Girth, excluding back fin	2	5 $\frac{1}{2}$
From centre of snout to opposite the base of the pectoral fin	1	0
Snout to beginning of the back fin	2	0
From the upper lip to the blowhole	0	9
From point of lower jaw to navel	2	1
From point of lower jaw to vagina	2	10
From the eye to the centre of the snout	0	7
Length of base of back fin	0	8
Height of back fin	0	3
Length of pectoral fin	0	11 $\frac{1}{2}$
Breadth of base of pectoral fin	0	3 $\frac{1}{2}$
Length of intestines	30	0

Anatomy.—Through the kindness of Mr. Brabazon, the excellent surgeon of Downpatrick, I had an opportunity of examining the fœtus of which the measurements have just been given. As the dissection was suddenly stopped, the details are imperfect, though accurate as far as they go. The skin was of a dark leaden colour, and the blubber on the sides of the body about half an inch thick. There were soft fringes or processes of the gums, corresponding in situation and number to the coming teeth.

The thymus of moderate size, at the usual situation in the chest, and sending no process to the neck. The spleen and a spleniculus together scarcely so big as a walnut. A flat rounded gland, about three-fourths of an inch in diameter, situated above the renal vessels on each side, and at a distance of upwards of an inch from the kidney, had more the appearance of a lymphatic gland than of the suprarenal body.

On opening the chest, each lung was seen to be covered with lymphatic vessels, running to a gland at the sterno-ventral aspect of the free edge of the lung. The gland was very juicy, had every appearance of a lymphatic gland, and measured one inch and a quarter long and five-eighths broad. This pulmonary gland in the adult is harder, more fibrous, and less juicy, and measures four and a half inches long by two broad.

The stomach with two chief compartments; the first continuing backwards on a line with the gullet, and lined, like it, with a white thick smooth membrane and epithelium; the second, or true digesting stomach, lined with a mucous membrane in folds, and somewhat smaller than the first, of a more rounded form, and extending from its middle to the duodenum. In the first was a quantity of thick, opake, whitish fluid, and in the second a little mucus.

There was no gall-bladder. The bile-duct, close to the duodenum, was as thick as a goose quill. The last portion of the intestine was full of meconium, like that of the human fœtus.

There was no cæcum; the intestines were nearly uniform in size throughout, their surface smooth and not at all cellulated. Length of the whole intestinal canal, from stomach to vent, thirty feet.

The kidneys large and lobulated throughout; the lobules from a quarter to half an inch in diameter, and having each a very delicate capsule of connecting tissue. The blood-vessels enter the kidney, not near its middle, but at its fore and inner or atlanto-mesial end.

The mesenteric glands moderate in size and number, of uniform consistency, and without any cavity or hollow in them, unlike those of the whale described by Mr. Abernethy.

The womb with two horns, and the ovaries in the usual situation; mammary slits on a level with and near to the orifice of the vagina. Urinary bladder empty, and the urethra opening just behind the clitoris.

Descriptive Characters.—Teeth conical and slightly curved inwards, from eight to twelve on each side of the jaws, making from thirty-two to forty-eight teeth altogether; but eleven on either side of each jaw is a common number, and there is sometimes one more in the upper

than in the under jaw on each side. Dorsal fin large, convex above and extending behind into a hooked or curved point. Pectoral fins long, narrow, and tapering to a point. Tail crescent-shaped. Mouth sloping downwards and forwards. Eyes above and behind the angles of the mouth. Top of the head round, and not prominent, though the snout is remarkably so. No nipples yet protruding, but merely a longitudinal mammary slit on each side of the orifice of the vagina in the female; a large penis in the male. Skin smooth, shining, and black throughout, save two whitish brown patches at the throat and near the vent and genitals; in a few males and females this light colour extends in a narrow strip from these points along the under part of the body, but never behind the eye, or elsewhere.

The blubber was $1\frac{5}{8}$ ths inch thick on the sides, much thicker on the back, and composing the whole thickness of the snout. The cuticle, which on its outer surface was like oil skin, when stripped off, exhibited on its under side a jet-black velvet-like rete mucosum, furnished with a very great abundance of black pigment. Around the eyeball was a firm bony plate in the sclerotic coat; and a white funnel-shaped ligament, extremely thick, tough and strong, was attached by its base to the eyeball, and surrounded the optic nerve.

As there is no opportunity here of consulting the published descriptions and figures of the Cetacea, I am uncertain at present of the species of this one. It does not correspond with any description in the Rev. Leonard Jenyns's 'Manual of the Vertebrata,' a copy of which is my travelling companion. The present animal approaches nearest to his Grampus (*Delphinus orca*) and Ca'ing Whale (*D. melas* of Traill and *D. deductor* of Scoresby). But it is smaller than either of them, though I suspect it will prove to be Traill's *D. melas*, and has not the white spot behind the eye, nor the broad pectoral fins of the Grampus, nor the very convex top to the head, the small average number of teeth (which he makes only twenty-four in all), nor the colour of the skin of his Ca'ing Whale. The animals which I examined had a convex rounded snout, its thickness made up of gristly blubber, which it is possible may have been erroneously described as the "top of the head." The Rev. Charles Archibald, whom I had the pleasure of meeting among the carcasses, directed my attention to the difference between the pectoral fins of this species and those of the Grampus.

The relative position of the back fin, so much more forward in the adult than in the fœtus, is remarkable; and, indeed, the comparative measurements exhibit some interesting facts as to development.

Dundrum, co. Down, May 20, 1853.

Postscript.—The animal is undoubtedly the same as that described under the name of the Uyea Sound or Ca'ing Whale by Mr. Patrick Neill in 1806, and afterwards figured by Dr. Traill from a drawing by Mr. James Watson; by Cuvier; by Captain Scoresby, Mr. Bell, and Mr. Couch.

But though these figures are sufficient to identify the species, they all represent the pectoral fin as narrower at the base than it really

is ; and most of them show a twist of the tail, which was observed in none of the specimens at Dundrum Bay. Cuvier's plate is the only one that gives an idea of the pointed end of the dorsal fin ; all the others represent this posterior termination of the fin too blunt, rounded, or short, though Mr. Couch correctly describes it as falcate.

No doubt, the fœtus, 4 feet 8 inches long, from Dundrum Bay, was nearly ready for birth in the middle of May. Dr. Traill mentioned sucklings five feet long in December 1806, at Scapay Bay, one of the Orkneys ; Mr. Neill says that most of the adult females at Uyea Sound, Unst, were either pregnant, or giving suck to their toothless young, in February and March 1805 ; and in January 1812, in the neighbourhood of Paimpol, near the northern extremity of Bretagne, M. Lamaoût found the young seven or eight feet long, and with cuttle-fish, cod, and milk in their stomachs.

M. F. Cuvier states that this species is remarkable for the spherical form of the anterior part of the head, and that his brother had named it "*globiceps*, à cause de la forme arrondie de sa tête." But the "very rounded top of the head," or "remarkably convex and prominent forehead," included by systematic writers in the specific characters of the Ca'ing Whale, and even among the otherwise judicious observations of Mr. Couch, does not properly belong to it ; for the forehead of the skull is flat, as in other porpoises, though the prominent upper muzzle or snout-knob is sufficiently remarkable, and not badly represented in the plates already mentioned.

But, as I have caused a young skull to be sent to the British Museum, and Mr. Brabazon has presented a complete skeleton of the adult male animal to the same national collection, Dr. Gray has examined them, and that eminent zoologist has favoured me with the following note of the result :—"I have compared the skeleton with the species which have been usually described under the name of *D. globiceps*, and it would appear that the shape of the head of the animal scarcely justified that name ; I can find no difference between the Irish and the other specimens."

ON THE SIZE OF THE RED CORPUSCLES OF THE BLOOD OF
THE GREAT ANTEATER (*MYRMECOPHAGA JUBATA*).

BY GEORGE GULLIVER, F.R.S.

These have the usual form, but differ in their comparatively large size from those of most other Mammalia. Their average diameter is $\frac{1}{2769}$ th of an English inch, and varying between the extremes of $\frac{1}{3554}$ th and $\frac{1}{2266}$ th of an inch.

All observers had come to the conclusion that there is no connection between the size of an animal and that of its blood-corpuscles, when I ascertained that in any truly natural family there is really such connection, however it may be in animals of such different orders as those to which the mouse and horse belong. The Great Anteater has larger blood-corpuscles than any yet examined in the other and smaller Edentata, though they are remarkably large in the Two-toed Sloth; and the Capybara has the largest ever seen among the Rodentia. Indeed, as this last order is characterized by a comparatively large size of blood-corpuscle, it might be supposed that in the great extinct species the corpuscles were larger than any ever measured in the Mammalia; and if any gigantic species allied to the Anteater should be found, its red corpuscles may be expected to be alike remarkable for comparative magnitude.

In the present species they are about the same size as in the Elephant, and certainly, excepting this great pachydermatous animal, the largest yet observed in the Mammalia; as may be seen by reference to the copious Tables of Measurements which I have appended to the English version of Gerber's Anatomy, and to my edition of Hewson's Works, published for the Sydenham Society. With the exception just mentioned, it is still a very interesting fact, that a simple examination of less than one hundredth of a grain of its dried blood would suffice to distinguish the Anteater from any other animal in the Society's Menagerie.

