

THE PRESENT STATUS OF THE TRUMPETER SWAN
(*OLOR BUCCINATOR*).

BY HENRY K. COALE.

Plates VII-X.

At the meeting of the American Ornithologists' Union held in New York City, in the fall of 1913, a number of members were discussing the rarity of the Trumpeter Swan; the general opinion being that this magnificent bird was nearing extinction; and would soon disappear forever.

During the ensuing winter, upon looking up the literature on the subject, I was surprised to find how little was known about this bird; many writers simply repeating Dr. Richardson's remarks in his original description. I determined to gather together the published records of the bird and ascertain as nearly as possible how many specimens are extant.

In the present paper I have brought together many facts from various sources, including information gleaned through correspondence with curators of museums, and private collectors. Of the eighty-five replies received in response to my inquiries, sixty-three from museums having 1,000 or more birds, reported "No specimens of the Trumpeter Swan in our collection." Of the remaining twenty-two replies, eight were from museums and five from collectors, who have specimens; while nine contained interesting information about the species.

It was not until 1831 that the discovery was made by Dr. John Richardson of the existence of a new species of swan in North America (*Fauna Boreali Americana*, by William Swainson and John Richardson, London, 1831). Up to that time the thousands of swan skins that were shipped, through the Hudson Bay Company, were thought to be all of one kind — *Olor columbianus*. In Dr. Richardson's original description of *Cygnus buccinator* we find: "Special characters; white; head glossed above with chestnut; bill entirely black; without a tubercle; tail feathers 24; feet black. This is the most common swan in the interior of the fur countries.



MALE TRUMPETER SWAN (*Olor buccinator*)
Collection of the Chicago Academy of Sciences.

It breeds as far south as latitude 61°; but principally within the Arctic Circle. . . .” The type of the species is a mounted bird in the Hudson Bay Museum. It measures length 70 inches; tail 9.6 inches, wing 26 in., bill above 4.11 in., nostril to tip 2.7 in., tip of bill to eye 6 in., mid. toe 6.9 in.

Lawson observes (*History of North Carolina*, 1831.) “There are two sorts of swans in Carolina, the larger of which is called from its note the Trumpeter,” and Hearne adds, “I have heard them in serene evenings, after sunset, make a noise not very unlike a French horn, but entirely divested of every note that constitutes melody, and have often been sorry that it did not forbode its death.”

At the annual meeting of the Boston Society of Natural History, May 17, 1843, Dr. Wyman “Exhibited the sternum of a male Trumpeter Swan. The keel of the breast bone contains a remarkable cavity extending its whole length designed to receive the trachea. . . . It only exists in the male.”

Preble (*North American Fauna* No. 27) says: “McFarlane states that between 1853 and 1877 the Hudson Bay Company sold a total of 17,671 swan skins. The number sold annually ranged from 1312 in 1854 to 122 in 1881”, and Nuttall is quoted as saying that the Trumpeter Swan furnished the bulk of them.”

Dr. Suckley remarks (*Pacific R. R. Rep.*, Vol. XII, 1853-5): “I obtained a fine Trumpeter Swan on Pike’s Lake, Minnesota, in June 1853. They were quite common on the lakes in that vicinity in the Summer, breeding and raising their young.”

Baird (*Pacific R. R. Rep.*, Vol. IX, 1858) says that it ranges over “Western America from the Mississippi Valley to the Pacific”; and remarks “this large and powerful swan doubtless has special anatomical peculiarities of trachea to distinguish it from *C. americanus*, as the note is much more sonorous.”

McFarlane (*Proc. U. S. Nat. Mus.*, XIV, 1861, 66) says: “Several nests were met with on the barren grounds on Islands in Franklin Bay; one containing six eggs was situated on the beach on a sloping knoll. It generally lays 4 to 6 eggs.”

At a meeting of Linnean Society of London, March 20, 1832 (*Proc. Linnean Society*, p. 2) William Yarrell called attention to the peculiar anatomy of this swan — “I am indebted to Dr. Richardson for an example of the sternum and trachea of a new

species of wild swan, *Cygnus buccinator*. . . . The trachea is made up of narrow bony rings and small intervening membranous spaces as far as the first convolution within the breast bone, but the returning portion of the tube, forming a second convolution is composed of broader and stronger bony rings with broader intervals."

The course of the trachea may easily be traced by consulting Plate IX.

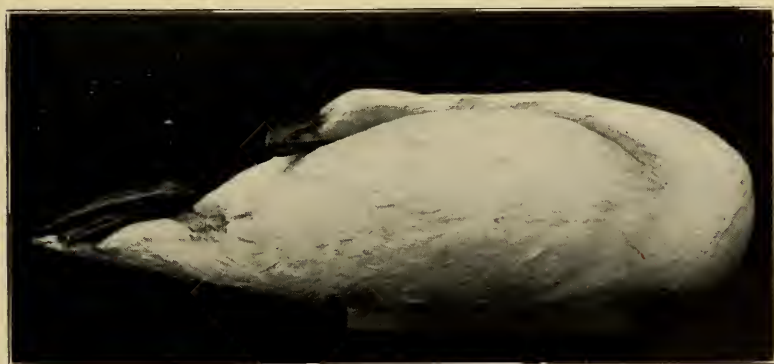
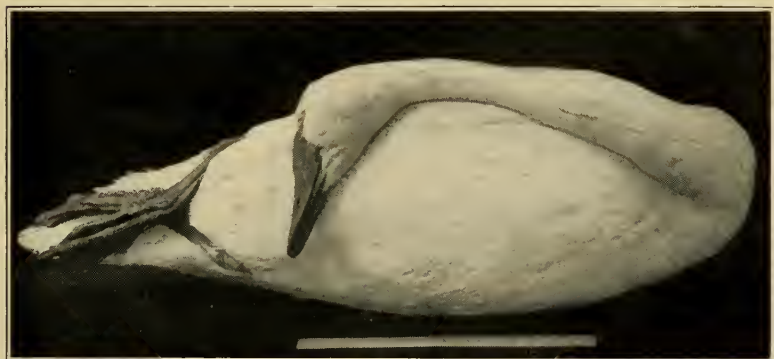
After traversing the neck it enters the lower part of the cavity on the anterior face of the sternum at "A," thence follows backwards through the horizontal covered protuberance in the upper surface of the sternum, a distance of eight inches to near the posterior line "B.," taking the curve of the cavity it comes forward six inches and rises into the vertical bony protuberance, "C.," following its curve, thence downward, and emerges through the upper part of the opening in the sternum, dips below the bridge of the "wish bone" and curving backward between the shoulder blades, "D" (obscured in the picture) enters the breast, where at its junction with the bronchiæ "E." it is flattened vertically to an eighth of an inch in width. The total length of the structure shown is 13.5 in., length of trachea 59 in., length of keel of sternum 11 in., opening $\frac{7}{8}$ in. wide, $2\frac{1}{2}$ in. high.

In *Olor columbianus* the cavity is in the anterior portion of the sternum only, the trachea making but one convolution, which is in the vertical (not horizontal, as some authors state) protuberance "A."

Plate X shows the anterior aspect of the sternum with the trachea entering the cavity below, and emerging above. I am indebted to Dr. C. W. Richmond for the loan of this sternum from the U. S. National Museum Collection.

Stejneger, (Vol. V, Proc. U. S. Nat. Mus. 1882) outlines a monograph of the Cygninae, and on p. 216 gives a table of measurements of ten specimens, with remarks; "The position of the nostrils being set more backwards in the Trumpeter than in the Whistling Swan, is thus the only mark which is possible to express in a short diagnosis, and which I have found constant and easily perceptible."

Baird, Brewer and Ridgway (Vol. 1, Water Birds of N. America, 1884), give an interesting description of the habits of the Trumpeter;



TRUMPETER SWAN (*Olor buccinator*).

1. Head of mounted specimen in Chicago Academy (see Plate VII).
- 2 and 3. Adult male, North Dakota. Collection of H. K. Coale, No. 17779, showing outline of bill.

among other notes, "Mr. W. E. Rice found a nest at Oakland Valley, Iowa, in the Spring of 1871 and took three of the young which were successfully raised. The eggs are of a uniform chalky white color, and are rough granulated on the surface. They measure 4.35 to 4.65 in length, and 2.65 to 2.90 in width."

A number of notes have appeared in the 'Nuttall Bulletin' and 'The Auk'.

J. J. Dalgleish (Bull. Nuttall Orn. Club, 1880, Vol. V) mentions the occurrence of *Cygnus buccinator* in Great Britain: "Five seen, four shot, Adelburg, Suffolk, Oct. 27, 1866, one of these specimens has been examined by J. H. Gurney."

H. Nehrling (Bull. N. O. C., Vol. VII, 1882) says, "Every winter there are large numbers on Galveston Bay and the Gulf of Mexico, near the coast."

W. W. Cooke (Auk, Vol. I, 1884) gives the "Chippewa Indian name 'Wabisi' (White bird)."

A. W. Anthony (Auk, Vol. III, 1886) says that it is "Found in large numbers on the Columbia River."

B. W. Evermann (Auk, Vol. III, 1886) says for Ventura, Cal., "Winter Visitant with the preceding species (*O. americanus*) but more common."

Albert Lano (Auk, Vol. XIII, 1896) speaking of western Minnesota says: "Some of the oldest sportsmen tell me that they have observed this swan quite regularly on Lac qui parle during the Spring and Fall migrations. A beautiful adult male now in my collection, shot near here (Madison, Minn.) April 9, 1893, weighed 15 lbs. but it was not fat. It measured: length 51 in., extent 77 in., wing 28 in., tail 7 in."

E. A. McIlhenny (Auk, Vol. XIV, 1897) says for Louisiana, "known as "Cygne," a winter resident on the coast; more common than the preceding (*O. columbianus*)."

J. H. Fleming, for Toronto, Ontario (Auk, Vol. XXIII, 1906), "There are no recent records, but Prof. Hincks described in 1864 a new swan, "*Cygnus passmori*" taken here, which was really a young Trumpeter and between 1863 and 1866 he was able to get six local birds to examine. There are two specimens in the collection of Trinity University that were no doubt taken here." (Proc. Linn. Soc. 1864.)

Beyer, Allison and Kopman in their *Birds of Louisiana* (Auk, Vol. XXIV, 1907), "In the past this species has proved commoner than the preceding (*C. americanus*) especially about the mouth of the Mississippi."

J. Claire Wood (Auk, Vol. XXV, 1908) reports for Michigan, "One specimen in the City market in Nov. 1893, was taken near Wind Mill Point, Lake St. Clair, according to the statement of Thomas Swan."

In E. H. Eaton's 'Birds of New York' (1909), he illustrates the bills of both swans, side and top view, showing the difference in shape, and position of the nostrils. He remarks, "I have been unable to find any New York specimen of this swan."

McCoun's 'Catalogue of Canadian Birds' (1909) records: "A pair found breeding at Buffalo Lake, Alberta, Apr. 7, 1891, nest contained 5 eggs."

Audubon in his 'Birds of America,' devotes seven pages to the Trumpeter Swan, giving a very complete and interesting history of its movements and habits, from personal observation of the birds on the Ohio and Mississippi Rivers and at New Orleans. He also illustrates the adult, and the young about two thirds grown, drawn from nature, showing it in slaty bluish plumage, head light brown, and legs yellowish brown.

E. W. Nelson (Report of Nat. Hist. Survey made in Alaska 1887) says: "a specimen of this little known swan is noted by Dall as having been secured with its nest and eggs at Fort Yukon by Mr. Lockhart, thus rendering it an Alaskan species."

Elliott Coues (Birds of the North West) says: "Chiefly from the Mississippi Valley and northward to the Pacific, Hudson's Bay, Canada, etc."

R. M. Anderson in 'Birds of Iowa' (Proc. Davenport Academy of Sciences, 1907) says: "The only definite breeding record which I have been able to trace is from the veteran collector, J. W. Preston, in a letter dated March 22, 1904 . . . 'a pair of Trumpeter swans reared a brood of young in a slough near Little Twin Lakes, Hancock Co., in the season of 1883. This was positively *Olor buccinator*.'"

W. C. Knight in his 'Birds of Wyoming' gives two or three records, the last being a bird taken by Mr. Van Dyke, at Lake De Smet in the Spring of 1897.

One of the most interesting replies to my inquiries is from Mr. E. S. Cameron of Marsh, Montana (April 30, 1914). He writes: "Twenty years ago Trumpeter Swans were common in Montana, and used regularly to winter here, but are now on the verge of extinction. It is generally stated by the Kootenai Indians that they bred in the Flathead Valley up to the first immigration of whites in 1886; but the latest positive record of Trumpeters nesting is in 1881. These swans nested at Lake Rodgers, 20 miles west of Kalispell, at Swan Lake, and on the east side of Flathead Lake, and on the lakes which drain Clearwater, a branch of the Big Blackfoot River. An adult male Trumpeter was shot at the mouth of Flathead River, Nov. 16, 1910. It weighed 31 pounds. Another similar bird was killed by an Indian on St. Mary's Lake in the fall of 1912. This was the largest Trumpeter ever killed in Montana, and would have approached, if it did not equal, Audubon's record bird of 38 pounds in weight. A young female Trumpeter under two years old, weight 20 pounds full, was shot at Cut Bank, Teton Co., on Nov. 10, 1913."

Mr. C. W. Beebe records seventeen specimens as having been in the New York Zoölogical Park from 1899 to 1910, "three from Idaho, six from Salt Lake City, one from Lewiston, Maine (Nov. 25, 1901, found exhausted) and seven without data. At present one survives."

Through the courtesy of Mr. Frank C. Baker of the Chicago Academy of Sciences I am able to give measurements of the fine mounted Trumpeter in the Academy Museum (Plate VII). It is an adult male and was shot on the Columbia River, three miles west of Portland, Oregon, April 8, 1881. The bird is pure white, except the forehead and crown which are washed with rusty color. It stands 44 inches high. The wing measures 26 inches, tail of 24 feathers 9.5 in., tarsus 4.5 in., middle tcl. 7 in., eye to tip of bill 5.25 in., nostril to tip of bill 2 in.

A Whistling Swan in the same collection measured for comparison, gives wing, 22 in., tail 9 in., eye to tip of bill 4.4 in., tarsus 4 in., mid. tcl. 6.5 inc., nostril to tip of bill 1.5 in.

The Field Museum of Natural History, has three young Trumpeters from one to two and one half years old, presented by Judge R. M. Barnes, who had them alive. They are without data.

The U. S. National Museum has seven skins and one mounted specimen. Those with data are:

No. 5476 ♂. Yellowstone, Wyo., Aug. 22, 1856, F. V. Hayden.

“ 19963 Ad. Fort Resolution, Can., May 24, 1860, R. Kennicott.

“ 62367 Ad. ♂. Snake River, Ida., Sept. 23, 1873, Dr. C. H. Merriam.

“ 70317 Ad. ♂. St. Clair Flats, Mich., Nov. 20, 1875, W. H. Collins.

No. 81290 Ad. ♂. Lake Koshkonong, Wis., Apr. 20, 1880, Thure Kumlein.

Another Wisconsin record is an adult male hanging as “dead game” in a local billiard hall in Chicago. It was shot in Waukesha Co. in February, 1904, by Dr. F. S. Crocker.

The only Mexican record, is a specimen in the Museum of Comparative Zoölogy at Cambridge, which was shot by F. B. Armstrong at Matamoros, Tamaulipas, Mexico, January 21, 1909 (see Phillips, Auk, Vol. X. p. 72). No. 49836, ♀. “There is also in the museum an adult (mounted), from the Greene Smith collection, and a chick labeled *O. buccinator*, with no data” (Bangs—letter June, 1914).

In the Government Museum, Banff, Alta., Can., Dr. N. B. Sanson, states that there is “One specimen from Manitoba, 1887.”

From the Public Museum of Milwaukee, Director Henry L. Ward, writes: “Our only specimen was received from the Wisconsin Natural History Society, with no data except “Wisconsin.”

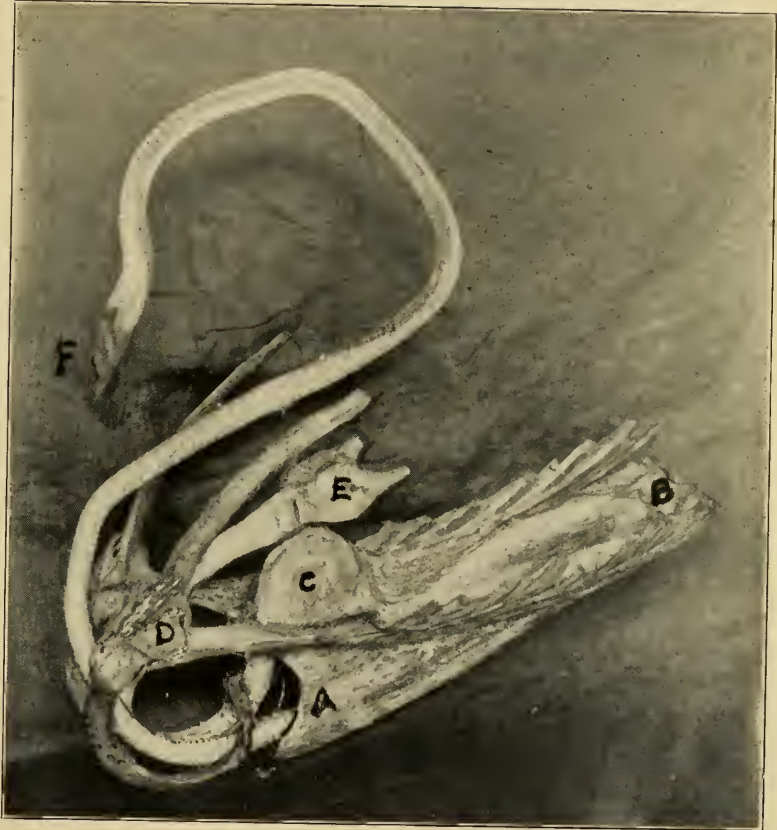
Prof. R. M. Bagg, Lawrence College, Appleton, Wis., has kindly sent me photos of two mounted specimens in the museum, which have no data.

Prof. Lynds Jones, Oberlin College, Ohio, writes: “There is a specimen in the collection received from J. C. Catlin, late of Ravenna, Ohio, about which it is stated that it was collected thereabouts in the '80s.”

P. A. Taverner, Government Survey Museum, Ottawa, Can., writes: “We have but one specimen in the Museum, a mounted bird, killed on the St. Clair Flats in 1884.

Mr. J. H. Fleming of Toronto, writes, “I have one Trumpeter Swan, shot about 1878 on Lake St. Clair, on the Toronto side.”

Dr. H. H. Brimley, Curator State Museum, Raleigh, N. C.,



TRACHEA AND STERNUM OF MALE TRUMPETER SWAN (*Olor buccinator*).
Shown in skin on Plate VIII.



ANTERIOR VIEW OF STERNUM OF TRUMPETER SWAN (*Olor buccinator*).
U. S. National Museum Collection.....

reports: "So far as I know the Trumpeter Swan has never been taken in this state, though the Whistling Swan is quite plentiful on Carrituck Sound in winter. I saw hundreds if not thousands of them in January, 1914."

Prof. Wm. C. Mills, Curator Museum of the Archæological and Historical Society of Ohio, at Columbus, states: "We have in our collection a great many bones of the Trumpeter Swan. It seems that this bird, although a very rare migrant at the present time, was here in great numbers in pre-historic time, and we find their bones in the villages of the old Indians, who always used the leg bones for making implements, while the wing bones were seldom used. I found specimens in the Baum, Bartner and Madisonville village sites."

Dr. Joseph Grinnell, states that he has "no knowledge of its occurrence in California in recent years: in fact I know of no specimens in any California collection."

Mr. F. C. Lincoln, Colorado Museum of Natural History at Denver, says: "It can only be considered a straggler in Colorado. The one mentioned by W. L. Slater in his 'Birds of Colorado' as a representative of this form, is a Whistling Swan."

Dr. L. B. Bishop, New Haven, Conn., writes: "The only Trumpeter in my collection is an adult male, shot at upper Stillwater Lake, Mont., March 11, 1902, No. 25378 of my collection. It was bought for me by Mr. E. S. Cameron of the owner, Miss G. M. Duncan of Whitefish, Mont."

Dr. Leonard C. Sanford, New Haven, Conn., writes: "I have in my collection three Trumpeter Swans which I purchased as young birds from a dealer, who got them from Montana, but declined to give me the exact locality. They are positively identified by Chapman and Hornaday."

Mr. John E. Thayer, Lancaster, Mass., writes: "I bought a pair of live Trumpeter Swans three years ago, that were taken from the nest in Montana. The male died last autumn and I had him made into a skin. I have a magnificent mounted specimen that a friend gave me, but he did not know where it came from. I think it is one of the rarest."

It was my good fortune to procure from Mr. Charles Dury, the veteran taxidermist of Cincinnati, a beautifully prepared skin of the

Trumpeter, together with the sternum and trachea shown in plate. The bird was taken in North Dakota in Nov., 1891. Mr. Dury informs me that there is a mounted pair in the museum of the Cuvier Club, one of which, the male, was shot from a flock of three, on the Ohio River near Cincinnati in December, 1876. Mr. Dury writes "several were taken at St. Mary's Reservoir in spring and fall, when I visited the place from the early '70s to the late '80s. That body of water was the resort of water birds in vast swarms, including both species of swan. The Whistling Swan was always more abundant than the Trumpeter. They would alight in the open water and were very wary and difficult to shoot. The last time I visited the Reservoir the birds were in such diminished numbers that I never went back."

Same bird shown in Plate VIII, note the parallel lines of bill — a distinguishing feature. (The rule shown in the cuts is 12 in. in length.)

Allen D. Hole, Curator, Earlham College, Richmond, Indiana, writes: "We have in our Museum a mounted Trumpeter Swan without data. Tail of 22 feathers."

F. Smith, Curator, University of Illinois, Champaign, writes that they have "One specimen of the Trumpeter Swan obtained from W. N. Butler, Anna, Ill., in 1880. No data."

Judge R. M. Barnes, Lacon, Ill., writes me: "There are at present ten known birds of this species in confinement, five of which are on my home place. I have been unable to breed any birds here."

A number of alleged Trumpeters which I traced proved to be Whistling Swans and many records also proved erroneous.

Of the great multitudes of Trumpeter Swans which traversed the Central and Western portion of North America sixty years ago, there are sixteen specimens preserved in museums which have authentic data. These were collected between the years 1856 and 1909.

There are besides the type, five other Canadian records, Toronto 1863, Fort Resolution 1860, Lake St. Clair 1878, St. Clair Flats 1884 and Manitoba 1887; and one from Wyoming 1856, Idaho 1873, Michigan 1875, Wisconsin 1880, Ohio 1880, Oregon 1881, North Dakota 1891, Minnesota 1893, Montana 1902 and Mexico 1909.