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UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C.

R. H. FEB 24 1916

Feb. 21, 1916.

Dr. L. Stejneger,

Head Curator of Biology.

Sir:

I have the honor to transmit herewith the manuscript of a paper entitled "A Study of the recent Pelicans, with descriptions of new Genera and Species", with the request that it be published in the Smithsonian Miscellaneous Collections.

Very respectfully,

Edgar A. Mearns

Associate in Zoology, U.S. National Museum.

FEB 25 1916
APPROVED:

SECRETARY

Recommended

Charles D. Richmond

*Respectfully referred to
the Asst. Secy in charge of National Museum*

*L. Stejneger
H. C. D.*

Feb. 23, 1916

*Copy forwarded to the Secretary
R. Rathbun
Asst Sec*

(1)

A STUDY OF THE RECENT PELICANS, WITH DESCRIPTIONS OF NEW
GENERA AND SPECIES.

BY

EDGAR ALEXANDER MEARNS

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The genus Pelecanus was created by Linnæus ~~for the pelicans~~ in the year 1758¹; subsequently, the genera Onocrotalus², Cyrtopelicanus,

footnote
✓ Syst. Nat., 10th edition, Vol. I, 1758, p. 132 (type Pelecanus onocrotalus).

✓ This was simply a renaming, by Brisson, of the Linnæan genus Pelecanus, with Pelecanus onocrotalus for the type.

Leptopelicanus, and Catoptropelicanus have been proposed and employed, as of generic or subgeneric rank, for species or groups of pelicans, by various authors³; but in the most recent treatment of the Family

footnote
✓ Cf. REICHENBACH, Naturl. Syst. Vög., 1853, p. 7; ELLIOT, Proceedings of the Zoological Society of London, 1869, pp. 571-591 (monographic); RIDGWAY, Water Birds of North America, Vol. II, 1884, p. 132; MATHEWS, Birds of Australia, Vol. IV, part 3, 1915, pp. 312-321.

Pelecanidæ, by Dr. Alphonse Dubois⁴, all of the recognized forms,

footnote
✓ Wytsman's Genera Avium, Part 7, 1907, pp. 1-4, pl.

eleven in number, were placed in the genus Pelecanus, without the recognition of subgenera, all of the above names being treated as pure synonyms of Pelecanus Linnæus.

The writer finds it necessary to recognize six full genera of

recent pelicans, as follows:

~~FOLLOWING IS A LIST OF THE RECOGNIZED GENERA AND SPECIES OF~~
RECENT PELICANS⁵.

For a list of the fossil pelicans, see Sharpe's Hand-List of Birds,
Vol. I, 1899, p. 239.

Genus Pelecanus Linnaeus⁶.

Genus Pelecanus Linnaeus, Syst. Nat., 10th edition, Vol. I, 1758, p.
132. Type by subsequent designation, Pelecanus onocrotalus Linnaeus
(Gray, 1840).

Species:

Pelecanus onocrotalus Linnaeus⁷.

[Pelecanus] Onocrotalus Linnaeus, Syst. Nat., 10th edition, Vol. I,
1758, p. 132 ("Africa, Asia").

Pelecanus sharpei Barboza du Bocage⁸.

[Pelecanus] sharpei Barboza du Bocage, Proc. Zool. Soc. London, 1870,
pp. 173, 409 (Angola).

Pelecanus roosevelti, new species (described beyond).

Pelecanus roseus Gmelin⁹.

[Pelecanus] roseus et [Pelecanus] manillensis Gmelin, Syst. Nat.,
Vol. I, pt. ii, 1789, pp. 570, 571 (Manila, Philippine Islands).

Genus Pseudopelecanus, new ^{fully} (described beyond).

Species:

Pseudopelecanus philippensis (Gmelin)¹⁰.

[Pelecanus] philippensis Gmelin, Syst. Nat., Vol. I, pt. ii, 1789,
p. 571 (Philippine Islands).

Pseudopelecanus rufescens (Gmelin)¹¹✓.

footnote

✓¹¹ [Pelecanus] rufescens Gmelin, Syst. Nat., Vol. I, pt. ii, 1789, p. 571 ("Habitat in Africa occidentali").

Pseudopelecanus crispus (Bruch)¹²✓.

footnote

✓¹² Pelecanus crispus Bruch, Isis, 1832, p. 1109 (Dalmatia).

Genus Cyrtopelicanus Reichenbach¹³✓.

footnote

✓¹³ Genus Cyrtopelicanus Reichenbach, Syst. Avium, 1853, p. vii. Type by original designation and monotypy, Pelecanus trachyrhynchus Latham = P. erythrorhynchus Gmelin.

Species:

Cyrtopelicanus erythrorhynchus (Gmelin)¹⁴✓.

footnote

✓¹⁴ [Pelecanus] erythrorhynchus Gmelin, Syst. Nat., Vol. I, pt. ii, 1789, p. 571 (Hudson Bay and New York).

Genus Neopelecanus, new (described beyond).

Species:

Neopelecanus abbotti, new species (described beyond).

Genus Leptopelicanus Reichenbach¹⁵✓.

footnote

✓¹⁵ Genus Leptopelicanus Reichenbach, Syst. Avium, 1853, p. vii. Type by original designation, Pelecanus fuscus Gmelin = P. occidentalis Linnæus.

Species:

Leptopelicanus occidentalis (Linnæus)¹⁶✓.

footnote

✓¹⁶ [Pelecanus] onocrotalus ♂ occidentalis Linnæus, Syst. Nat., 12th edition, Vol. I, 1766, p. 215 (West Indies).

Leptopelicanus californicus (Ridgway)¹⁷✓.

Footnote

17 Pelecanus (fuscus?) californicus Ridgway, Water Birds of North America, Vol. II, 1884, p. 143 (La Paz, Lower California).

Leptopelicanus molinae (Gray)¹⁸.

Footnote

18 Pelicanus Molinae Gray, List of Birds, pt. III, 1844, p. 189, nomen nudum (Chili); P[elecanus] Molinae Gray, Genera of Birds, Vol. III, 1845, p. 668 (Chili).

Genus Catoptropelicanus Reichenbach¹⁹.

Footnote

19 Genus Catoptropelicanus Reichenbach, Syst. Avium, 1853, p. vii. Type by original designation and monotypy, Catoptropelicanus perspicillatus Reichenbach (= Pelecanus conspicillatus Temminck).

Species:

Catoptropelicanus conspicillatus (Temminck)²⁰. 118 [No. 276]

Footnote

20 Pelecanus conspicillatus Temminck, Pl. Col. d'Ois., Vol. 5, pl. 285 (Australia). 1824,

KEY TO THE GENERA OF RECENT PELICANS

a. Lores feathered (naked space around eye entirely surrounded by feathers); tarsus as long as middle toe with its claw.

wholly

Catoptropelicanus REICHENBACH.

aa. ~~Lores naked to edge of bill~~; tarsus shorter than middle toe with its claw.

b. Lower jaw densely feathered at base; with a maxillary crest.

Cyrtopelicanus REICHENBACH.

bb. Lower jaw wholly naked of feathers; without a maxillary crest.

c. Gular pouch smaller, extending less than halfway down

the neck; coloration light.

d. Lower jaw slender, tapering from base to tip;
terminal nail of maxilla narrow and elongate.

e. Frontal feathering ending in a point at the
base of the maxilla; tarsus as long as
middle toe without claw; primaries longer
than secondaries. Pelecanus LINNÆUS.

ee. Frontal feathering ending in a broad concave
line at the base of the maxilla; tarsus
shorter than middle toe without claw; pri-
maries shorter than secondaries. Pseud-
opelecanus, new genus.

dd. Lower jaw stout, and swollen at base; terminal
nail of maxilla broad and short. Neopele-
canus, new genus.

cc. Gular pouch larger, extending about halfway down the
neck; coloration dark. Leptopelicanus REICHENBACH.

THE FOLLOWING GENERA AND SPECIES REQUIRE MORE DETAILED CHARACTER-
IZATION.

Genus Pelecanus LINNÆUS.

Pelecanus LINNÆUS, Syst. Nat., 10th edition, Vol. I, 1758, p. 132.

Type by subsequent designation, Pelecanus onocrotalus LINNÆUS
(GRAY, 1840).

Generic characters.— Plumage mostly white; frontal feathering

ending in a point at the base of the maxilla; Tarsus as long as the
middle toe (without claw); ~~Female with occipital plumes of long, stiff,~~

primaries longer than secondaries; female with
occipital plumes of long, stiff,

Generic characters.— Tarsus
as long as the middle toe
(without claw); primaries
longer than secondaries; frontal
feathering ending in a point
at the base of the maxilla;
female with occipital plumes
of long, stiff, slightly
depressed, narrow feathers;
plumage mostly white.

slightly depressed, narrow feathers, ~~primaries longer than secondaries~~

~~in s.~~

Species.— Pelecanus onocrotalus LINNAEUS, P. sharpei BARBOZA
DU BOUAGE, P. roosevelti, new, and P. roseus GILLIN.

Pelecanus roosevelti, new species

Roosevelt's Roseate Pelican

Type-specimen.— Adult female. Cat. No. 213870, U.S. Nat. Mus.; shot by Col. Theodore Roosevelt, on the north shore of Lake Naivasha, near Naivasha Station, on the Uganda Railway (altitude 6,220 feet), in British East Africa, July 23, 1909. (Original number, 16360, Mearns.)

Specific characters.— A member of the Pelecanus onocrotalus-roseus-sharpei group. It has 22 tail-feathers; ~~the feathers of the~~
forehead extending to a point at the base of the culmen; no swelling on the forehead; breast-patch ochereous yellow, tinged with chestnut during the breeding season; bill remarkable for its breadth and shortness.

Description of type (adult female in breeding plumage).— General color white, strongly tinged with rose; primaries brownish black with yellowish-white shafts; bastard-wing grayish black with white shafts; outer secondaries blackish, with most of outer webs white; inner secondaries ash-gray, edged with black on outer and inner edges, with tips and outer webs mostly white; feathers of occipital crest narrow and straight, the longest measuring 145 by 3 millimeters. The colors of the soft parts were noted by the author, from the fresh specimen, as follows: irides brown; bill with a broad stripe of gray, mottled with pinkish flesh color, extending from base nearly to end on middle of

upper side; shorter stripes of same on sides of base, extending only 65 millimeters and ending in a point on commissural line; maxilla flesh color above, subterminally, with a bright red nail at the tip; maxilla laterally broadly banded with yellow thickly and heavily dashed with red; mandible gray on basal half like the upper side of maxilla; terminal half yellow with faint red on tip of nail; gular pouch chrome yellow; legs and feet orange, extending to basal portion of claws, and with front of tibia marked with red, and with some dusky tinge on tops of toes. ~~Shot by Theodore Roosevelt.~~ Weight, 14 pounds avoirdupois.

Measurements of type (adult female).— The following measurements were taken by the author from the fresh specimen: Length, 1530; alar expanse, 2600; wing, 640; tail, 215; culmen (chord), 350; greatest width of maxilla, 48; least width of maxilla, 39; tarsus, 133; middle toe and claw, 155.

Description of adult male (Cat. No. 213871, U.S. Nat. Mus.; shot by the author at the same place as the type, with which it was probably mated, July 25, 1909.) (Original number, 283, Loring). — Coloration of plumage and soft parts like the adult female type, except that the breast-spot is tinged with chestnut-brown; and the crest is short, as usual in males of this group; weight $17\frac{1}{2}$ pounds avoirdupois.

Measurements (taken by the author from the fresh specimen).— Length, 1675; alar expanse, 2810; wing, 720; tail, 230; culmen (chord), 380; tarsus, 145; middle toe with claw, 155.

Remarks.— The interrelations of the group to which this form belongs have not been satisfactorily worked out. Mr. W.R.Ogilvie-Grant²¹ observes, under Pelecanus onocrotalus as follows: "A careful

prolute

Cat. Birds Brit. Mus., Vol. 26, 1898, pp. 464-5.

examination of specimens from Sind and Fao, at the head of the Persian Gulf, shows that some specimens possess 22 tail-feathers, while others have 24, and that in other respects most of the birds from these countries are intermediate forms [between Pelecanus onocrotalus and P. roseus]. The two species evidently intergrade, and no doubt interbreed." Tabulated measurements, presented on page 465, bear out the intermediate size of examples from Eastern Narra, and Fao, Persian Gulf.

A breeding male from Lake Naivasha, British East Africa, shows some approach to Pelecanus sharpei in the brownish chestnut color of the breast-patch.

PSEUDOPELECANUS, new genus

Type.— Pelecanus philippensis Gmelin = Pseudopelecanus philippensis (Gmelin).

Generic characters.— Plumage mostly white; frontal feathering ending in a broad, concave line at the base of the maxilla; tarsus much shorter than middle toe (without claw); female with upper side of head, and upper neck clothed with long, soft, recurved or curly feathers; primaries shorter than secondaries.

Species.— Pseudopelecanus philippensis (Gmelin), Pseudopelecanus rufescens (Gmelin), and Pseudopelecanus crispus (Bruch)²².

Pelecanus crispus Bruch was made the type of a genus Onocrotalus by Reichenbach in 1853; but the genus Onocrotalus Reichenbach, 1853, was preoccupied by Onocrotalus Brisson, 1760 (type O. onocrotalus (Linnaeus))

prolute

Generic characters.— Tarsus much shorter than middle toe (without claw); primaries shorter than secondaries; frontal feathering ending in a broad, concave line at the base of the maxilla; female with upper side of head, and upper neck clothed with long, soft, recurved or curly feathers; plumage mostly white.

and by Oncrocrotalus WAGLER, 1832 (type O. hernandezii = ^{Cyr}Lestopelicanus erythrorhynchos melinæ).

NEOPELECANUS, new genus

Type.— Neopelecanus abbotti, new species.

Generic characters.— Head and margin of gular pouch white; body plumage mostly white, with neck, wings, scapulars, and tail mostly colored; occiput moderately crested; upper side of neck with a short mane on its upper half; feathering of forehead ending in a broad, concave line at base of maxilla; primaries considerably longer than secondaries; bill broad and smoothish, with a prominent maxillary mid-rib, and with mandible deep, stout, and swollen at base; tarsus much shorter than middle toe (without claw).

Neopelecanus abbotti, new species

Abbott's Pelican

Pelecanus rufescens RIDGWAY, Proc. U.S. Nat. Mus., Vol. 18, 1895, p. 516.

Type-specimen.— Adult female. Cat. No. 128818, U.S. Nat. Mus.; collected at Ile St. Joseph, Amirantes group, southwest of Seychelles, August 29, 1892, by Dr. W.L. Abbott. (No original number.)

Description of type (adult female).— Base of mandible unfeathered and relatively deeper and stouter than in other species; frontal feathering ending in a broad, concave line anteriorly, measuring 21 millimeters in breadth; head white, with the white continued downwards and forming a broad white band around the gular pouch and continuing upon the upper neck; occiput with a short crest of narrow, straight, chaetura drab feathers, each feather with a minute white

spot at the tip, the longest crest-feather measuring 30 x 3 millimeters; this chaetura drab color extending down the back of the neck, forming a slight mane on the upper half of the neck, the color paling to hair brown on the lower half; white tips are small and inconspicuous on the back of the neck, but larger and conspicuous on the sides of the neck; anterior border of neck, below the white area bordering the naked gular pouch, whitish, with pale drab bases to the feathers²³;

footnote

²³ The lower neck, in this species, somewhat resembles the young of Pelecanus philippensis and of P. rufescens, both of Gmelin. In this connection, cf. Oates, "Birds of British Borneo," Vol. II, 1883, p. 236 and Ogilvie-Grant, "Catalogue of the Birds in the British Museum," Vol. 26, 1898, pp. 471-475.

median portion of back, rump, upper tail-coverts, and entire under parts pure white, except a tinge of drab on the extreme upper breast; bastard-wing and primaries blackish brown with pale yellow shafts to the feathers; secondaries brown in the middle, with broad, pale neutral gray edges, and with the shafts yellowish white at base, becoming dark brown terminally; scapulars, wing-coverts, and exposed portion of secondaries light neutral gray, tipped or edged with pallid neutral gray, and with white bases or inner webs to the feathers; rectrices light neutral gray, slightly edged externally and tipped with pallid neutral gray. The label supplies the following data: "Feet leaden—webs darker. Irides dirty white. Bill pale leaden; tip of upper mandible orange, base and orbital skin dull blue. Gular pouch grayish white."

(Dr. W.L. Abbott.)

Measurements of type (adult female).-- "Length 52 $\frac{1}{2}$ inches" (W.L.

(11)

Abbott); wing, 500; tail, 173; culmen (chord), 298; greatest width of maxilla, 40; least width of maxilla, 26; greatest depth of mandible, 23; tarsus, 88; middle toe with claw, 115; middle claw, 14.5.

Remarks.— In this species the pattern of coloration of the head and neck resembles that of the American brown sea pelicans of the Leptopelicanus occidentalis group, having a white head, a white border to the gular pouch, and a dark posterior to the neck. It may also be a salt-water feeder.

"A small colony—perhaps one hundred individuals"— said by Dr. Abbott to inhabit Ile St. Joseph, and noteworthy "as being the only colony of pelicans in these seas."