

THE STANDING OF *ARDETTA NEOXENA.*

BY FRANK M. CHAPMAN.

Plate I.

CERTAIN facts in the history of this well-named Bittern have caused several writers, myself among the number, to speak of it as probably an aberrant form or color-phase of our widely distributed *Ardetta exilis*. In figuring this peculiar bird in 'The Auk' an attempt has therefore been made to bring together for direct comparison as many of the known specimens as were available, for the purpose of deciding if possible the bird's standing.

Described by Mr. Cory in 1886 from a specimen taken in the Okeechobee region of Florida, there have since been captured thirteen additional specimens. Of this number five are from the type locality in Florida, one is from Michigan, and seven are from Toronto.¹ Through the generosity of the owners of these rare birds I now have before me ten of the fourteen recorded specimens. This series presents much variation, to be spoken of more particularly after comparing the apparently normal plumage of the adult male and female and immature male with the corresponding plumages of *Ardetta exilis*.

Ardetta neoxena, ♂ ad.

Crown glossy black.
Back of the neck glossy black.
Interscapulars entirely glossy
black without buffy margins.

Tail glossy black.
Front of the neck chestnut.

Abdomen, sides, and tibiae mixed
chestnut, black, and smoky brown.
Under tail-coverts glossy black.

Primaries slate gray *without* cin-
namon rufous tips.

Ardetta exilis, ♂ ad.

Crown glossy black.
Back of the neck chestnut rufous.
Interscapulars glossy black, outer
edge of outer ones margined with
buffy white.

Tail glossy black.
Front of the neck white more or
less washed with buffy.

Abdomen, sides, and tibiae white
more or less washed with buffy.
Under tail-coverts white slightly
tinged with buffy.

Primaries slate gray, the outer
ones sometimes, the inner ones
always tipped with dull cinnamon
rufous.

¹ A fifteenth specimen, from Wisconsin, is recorded beyond in this number of 'The Auk.'



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ARDETTA NEOXENA CORY.

Outer secondaries, slate gray without cinnamon rufous tips; inner secondaries black, glossy on the outer web and *without* chestnut rufous.

Lesser wing-coverts at bend of wing black.

Median wing-coverts chestnut.

Greater wing-coverts blackish slate gray, the inner ones with chestnut tips.

Under wing-coverts chestnut.

Outer secondaries slate gray tipped with cinnamon rufous; inner secondaries with outer web chestnut rufous, inner web blackish slate gray.

Lesser wing-coverts at bend of wing chestnut rufous.

Median wing-coverts cream buff.

Greater wing-coverts with basal half slate gray, terminal half chestnut rufous, the inner ones washed with cream-buff on the outer vane.

Under wing-coverts white, grayer at the base, and washed with buffy.

It will be seen from this comparison that there is no regularity in the substitution of colors; hence these birds differ not alone in color, but also in pattern of coloration. Thus, the chestnut of *neoxena* may replace either the white or buff of *exilis*, or the former may be black where the latter is chestnut rufous, buff, or white. The differences in distribution of color, or relative markings of the same parts, are most marked in the interscapulars, under tail-coverts, greater wing-coverts, and tips of the quills.

Ardetta neoxena, ♀ *ad.*

Similar to male but crown slightly, and back decidedly duller.

Ardetta exilis, ♀ *ad.*

Similar to male but black of head tinged with brown; back rich, dark brown; interscapulars more widely margined with buffy; under parts more heavily washed with buff, and with numerous blackish shaft-streaks, and in places slight blackish mottlings.

Measurements.

Six adults (5 males and 1 female, 4 from Florida and 2 from Toronto) average: wing, 4.59; tail, 1.56; tarsus, 1.56; culmen, 1.76.

Six adults (4 males and 2 females, 3 from Florida and 3 from Erie, Pa.) average: wing, 4.60; tail, 1.59; tarsus, 1.59; culmen, 1.81.

My notes on the female of *neoxena* are based on the original records and Mr. Hubert Brown's comparison of the two adult Toronto females, neither of which I have seen. One of these

has been compared by Mr. Brewster with a bird (No. 44,087) in his collection, and which he has loaned me. Mr. Brewster remarks: "The Toronto bird is a trifle the darker on the back and the chestnut of its under parts is slightly richer, but in other respects the two specimens are almost exactly alike." This No. 44,087 is not sexed, but with little doubt is an adult female. The outer margins of the interscapulars are decidedly brownish, but whether this marking appears in the two Toronto birds is not stated.

It appears, therefore, that there is less sexual difference in *neoexena* than in *exilis*. In size the two birds agree.

Ardetta neoexena, ♂ immature.

Similar to adult male but black of the head and back somewhat duller, the outer margins of the interscapulars slightly tinged with chestnut.

Ardetta exilis, ♂ immature.

Similar to adult male but crown duller, the feathers margined with chestnut rufous; back slate gray or blackish slate gray, the feathers tipped with chestnut rufous and ochraceous buff; under parts more heavily washed with buff, and with numerous blackish shaft-streaks.

Four of the ten specimens of *neoexena* now in my possession are birds of the year, three of them still showing remains of the nestling plumage. This is especially marked in a male from Toronto (Aug. 24, J. H. Ames) in which the nestling plumage still covers the abdominal region while the feathers of the head and back, although fully grown, still have the downy neossoptiles attached to their tips. These specimens are of the utmost importance for they evidently show that the immature plumage of *neoexena*, or the first plumage succeeding the nestling down, is practically like that of the adult, while *exilis*, on the contrary, at this age, differs markedly from the adult.

Here also should be mentioned the notes of Mr. J. F. Menge on the nest and young of *neoexena*, as quoted by Mr. W. E. D. Scott.¹ Mr. Menge, who collected four of the six Florida specimens, writes as follows: "I herewith send you notes concerning the Bittern as requested by Mr. J. W. Atkins, first found on 8th

¹Auk, VIII, 1891, 309.

of June, 1890, two and a half miles above Fort Thompson, Florida, in a small willow swamp on the borders of Lake Flint [*lege* Flirt]. It was built of willow twigs and lined inside with maiden cane leaves. It was in a low bush two feet and a half above the surface of the water. There were four young birds, about two-thirds grown, in the nest. I had one of the old birds in my hand, which I think was the female. She was not inclined to fight and would not leave the nest. The other old bird was two or three feet from me and seemed a much larger bird. I did not disturb them and when I let the old bird go she hopped back on her nest as though she was accustomed to being handled."

This comparison shows such striking differences between these two birds, that to give further reasons for regarding them as specifically distinct seems much like proving an axiom.

Aside from the differences in color and pattern of coloration and the manner in which the mature plumage is acquired, the fact that the young of *neoxena* resemble the adults, and that no example of *exilis* showing an approach to *neoxena* has ever been recorded, would seem to give Cory's Bittern undisputed title to full specific rank.

While we may therefore reject the suggestion that *neoxena* is a color-phase of *exilis*, and in fact leave *exilis* entirely out of the question, the specimens of *neoxena* present certain characters which demand investigation. Allowing for normal variation only three of my ten specimens of *neoxena* are alike, while the remaining seven show either melanistic or albinistic markings or both combined. No. 167 (♂ im., Mich.) has several white feathers on the right tibia but is otherwise normal. The type (No. 2001, Fla.) has two entirely white feathers on the right flank. No. 44,087 (Fla.) has the abdominal region and flanks wholly chestnut without black. There are three pure white feathers on one side of the belly and five on the other; part of the anterior portion and the entire inside of the right tibia are white. No. 71 (♂ ad., Toronto) has conspicuous white patches on the abdomen, vent, and tibiæ. No. 44,088 (im., Fla.) presents the extreme of albinism; the abdominal region, breast, and tibiæ are almost wholly white, the outer primary of the left wing is entirely white, and white feathers appear on the bend of both wings and under wing-coverts. No.

29,289 has the abdominal region and breast black slightly tinged with chestnut and with one or two white feathers on either side of the belly. The left tibia (the skin on the right is wanting) is chestnut and black with white filoplumes. The chestnut on the median coverts is much reduced. No. 44,086 (♂, Fla.) is almost completely melanistic. The abdominal region is wholly black with the exception of two pure white feathers on either side of the belly. The tibiæ are smoky brown the inner side of the right one being white. The foreneck is black washed with dull chestnut, the wing-coverts are glossy black with no trace of chestnut.

This remarkable variability will be more fully appreciated by an examination of the following table:—

No.	ABDOMINAL REGION.	TIBIÆ.	REMARKS.
167	Mixed chestnut and smoky brown.	Like abdomen but right with white feathers.	
2001	Mixed chestnut and black; two white feathers on right flank.	Like abdomen.	
44087	Chestnut with eight white feathers.	Chestnut, right partly white.	
71	Mixed chestnut, black and white.	Like abdomen.	
44088	White with a few chestnut and brownish feathers.	Front white, back smoky brown.	Outer primary of left wing and some feathers of bend of wing and under wing-coverts white.
29289	Black tinged with chestnut; three white feathers on belly.	Chestnut and black.	Wing coverts black tinged with chestnut.
44086	Black with two white feathers.	Right smoky brown, left smoky brown and white.	Foreneck black washed with chestnut. Wing-coverts glossy black.

While I do not pretend to explain this unusual degree of variation, I can see no reason for making it the basis of a theory that *neoxena* is a color-phase of *exilis*. Only three of the fourteen known specimens depart widely from what is evidently the type of coloration, and in every instance these differences are due to albinism or melanism, not one of the specimens showing any approach to *exilis*. Nor do the known cases of dichromatism among Herons give us any ground for asserting that *neoxena* is a dichromatic phase of *exilis*. Aside from the important differences exhibited by the young and female, a careful comparison of the adult males shows no substitution of colors such as we find in the phases of *Ardea rufescens*, *Megascops*, *Fulmarus*, or even *Stercorarius*. This is especially marked in the under parts, which in *exilis* are essentially all buffy, while *neoxena* has a chestnut foreneck, a chestnut and black belly, and, in every instance, jet black under tail-coverts.

It is natural that the variability of *neoxena* should cause us to regard it with suspicion, but beyond the fact that the two birds are generically related and of the same size, there is not one grain of evidence implicating *exilis*. This latter bird is represented in our collections by hundreds of specimens not one of which has given reason for believing the species is dichromatic.

For the loan of specimens of this rare bird I desire to heartily thank Messrs. William Brewster, J. H. Ames, Charles B. Cory, J. H. Fleming, Jas. R. Thurston, and L. W. Watkins.

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1886. CORY, CHARLES B. Description of a New North American Species of *Ardetta*. Auk, III, 262.
1886. CORY, CHARLES B. More news of *Ardetta neoxena*. Auk, III, 408.
Gives collector's name and approximate place of capture of the type specimen.
1886. COUES, ELLIOTT. Key to North American Birds. Third Edition. Appendix, 888.
Description of *Ardetta neoxena*.
1889. RIDGWAY, ROBERT. Manual of North American Birds, 127.
Description of *Botaurus neoxenus*.

1889. A. O. U. COMMITTEE ON NOMENCLATURE. First Supplement to Check-List of North American Birds, p. 6.
Ardetta is here ranked as a subgenus of *Botaurus* and the species is therefore recognized as *Botaurus neoxenus*.
1889. SCOTT, W. E. D. A second specimen of Cory's Bittern (*Botaurus neoxenus*). Auk, VI, 317.
Records the capture near Lake Okeechobee of the second known specimen.
1891. CORY, CHARLES B. Capture of a Fourth Specimen of *Ardetta neoxena*. Auk, VIII, 309.
Records an adult male from the Kissimmee River, Florida. The capture of the third known specimen herein referred to was not published until 1892.
1891. SCOTT, W. E. D. Notes on the Nest and Habits of Cory's Bittern (*Botaurus neoxenus*). Auk, VIII, 309.
Records the discovery, June 8, 1890, by J. F. Menge, of a nest containing four young on the borders of Lake Flirt, a small lake west of Okeechobee.
1892. SCOTT, W. E. D. A Description of the adult male of *Botaurus neoxenus* (Cory), with Additional Notes on the Species. Auk, IX, 141.
Records the capture of three birds by J. F. Menge near Lake Okeechobee. It is suggested that *neoxena* may prove to be a color-phase of *exilis*.
1892. SCOTT, W. E. D. Notes on the Birds of the Caloosahatchie Region of Florida. Auk, IX, 214.
"*Botaurus neoxenus*" is stated to occur regularly, though probably in small numbers, about Lake Flirt and in the great tracts of sawgrass that surround Lake Okeechobee.
1892. CROSS, W. A new Species for Ontario. Proc. Ornithological Sub-section Canadian Inst., for 1890-91, 41.
Records the capture, on May 18, 1890, of the first known Toronto specimen.
1893. A. O. U. COMMITTEE ON NOMENCLATURE. Fifth Supplement to the American Ornithologists' Union Check-List of North American Birds. Auk, X, 61.
Ardetta is restored to full generic rank, *Botaurus neoxenus* thus becoming *Ardetta neoxena*.
1893. BROWN, HUBERT H. Capture of another *Ardetta neoxena* at Toronto, Ontario. Auk, X, 363.
Records a female taken May 20, 1893.
1893. BREWSTER, WILLIAM. Capture of another *Ardetta neoxena* at Toronto. Auk, X, 364.
Comparing the specimen recorded by H. H. Brown with the four Florida specimens in his collection. It is stated to agree closely with No. 44,087.

1894. SHARPE, R. BOWDLER. [The Geographical Distribution of the Little Bitterns (*Ardetta*)]. Bull. Brit. Orn. Club, XXI, xxxi; reprinted in *The Ibis*, July, 1894, 425.
The writer states that "*Ardetta neoxena* of Cory seems to be founded on very old individuals of *A. exilis*, in which the rufous tips to the quills and the light stripes on the back have disappeared with age or wear"!
1894. AMES, J. H. Third Specimen of *Ardetta neoxena* taken at Toronto. *The Biological Review of Ontario*, I, 52.
Records the capture of a male on May 26, 1894.
1894. MCILWRAITH, THOMAS. *The Birds of Ontario*, Second Edition, 109. *Botaurus neoxenus* described with comment on the Toronto specimens.
1894. PICKERING, CHARLES. Fourth Specimen of *Ardetta neoxena* at Toronto. *The Biological Review of Ontario*, I, 54.
Records a specimen taken July 16, 1894.
1894. BRODIE, WILLIAM. Fourth Specimen of *Ardetta neoxena* at Toronto. *The Biological Review of Ontario*, I, 54.
Description of the specimen collected by Mr. Pickering with references to previously published records of this species.
1894. THURSTON, JAMES R. *Ardetta neoxena* at Toronto. *The Biological Review of Ontario*, I, 84.
Records an adult male taken August 16, 1894.
1894. FLEMING, JAMES H. *Ardetta neoxena* at Toronto. *The Biological Review of Ontario*, I, 85.
Records an immature bird taken August 17, 1894.
1894. AMES, J. H. *Ardetta neoxena* at Toronto. *The Biological Review of Ontario*, I, 86.
Records an immature male taken August 24, 1894.
1894. BROWN, HUBERT H. Notes on Cory's Bittern (*Ardetta neoxena*) and a comparison of the seven Toronto specimens. *The Biological Review of Ontario*, I, 86-91.
An important paper describing the locality in which all the Toronto specimens were taken, giving notes on their habits and food and comparisons of their plumage.
1895. WATKINS, L. WHITNEY. Cory's Least Bittern in Michigan. *Auk*, XII, 77.
Records a male from Jackson County, taken August 8, 1894.
1895. CHAPMAN, FRANK M. *Handbook of Birds of Eastern North America*, 131.
Ardetta neoxena described and the suggestion that it may prove to be a color-phase of *A. exilis* endorsed.

LIST OF RECORDED SPECIMENS OF *Ardetta neoxena.*

No.	Collection of.	Locality.	Sex and Age.	Date.	Collector.
2001	Field Columbian Mus.	Near Lake Okeechobee, Fla.	[♂ ad.]	[1885]	R. T. Stewart.
29289	William Brewster.	" "	[♂ ad.]	July 9, 1889	J. F. Menge.
—	?	Kissimmee River.	♂ ad.	May 19, 1890	R. C. Stewart.
—	Canadian Institute.	Toronto, Ont.	—	May 18, 1890	W. Cross.
44086	William Brewster.	Near Lake Okeechobee, Fla.	♂ ad.	June 28, 1891	J. F. Menge.
44087	"	Lake Flirt.	[♀ ad.]	July 15, 1891	J. F. Menge.
44088	"	"	Im.	Aug 15, 1891	J. F. Menge.
13561	J. H. Fleming.	Toronto, Ont.	♀ ad.	May 20, 1893	J. Rainsden.
—	J. H. Ames.	"	♀ ad.	May 26, 1894	— Jacobs.
—	Chas. Pickering.	"	♀ ad.	July 16, 1894	Chas. Pickering.
71	Jas. R. Thurston.	"	♂ ad.	Aug. 16, 1894	— Hume.
1000	J. H. Fleming.	"	♂ im.	Aug. 17, 1894	H. Day.
—	J. H. Ames.	"	♂ im.	Aug. 24, 1894	P. Jacobs.
167	L. W. Watkins.	Watkin's Lake, Mich.	♂ im.	Aug. 8, 1894	L. W. Watkins.

¹ Not examined.