

A REVIEW OF THE RED CROSSBILL IN NEW YORK STATE

Part 2. Identification of Specimens from New York

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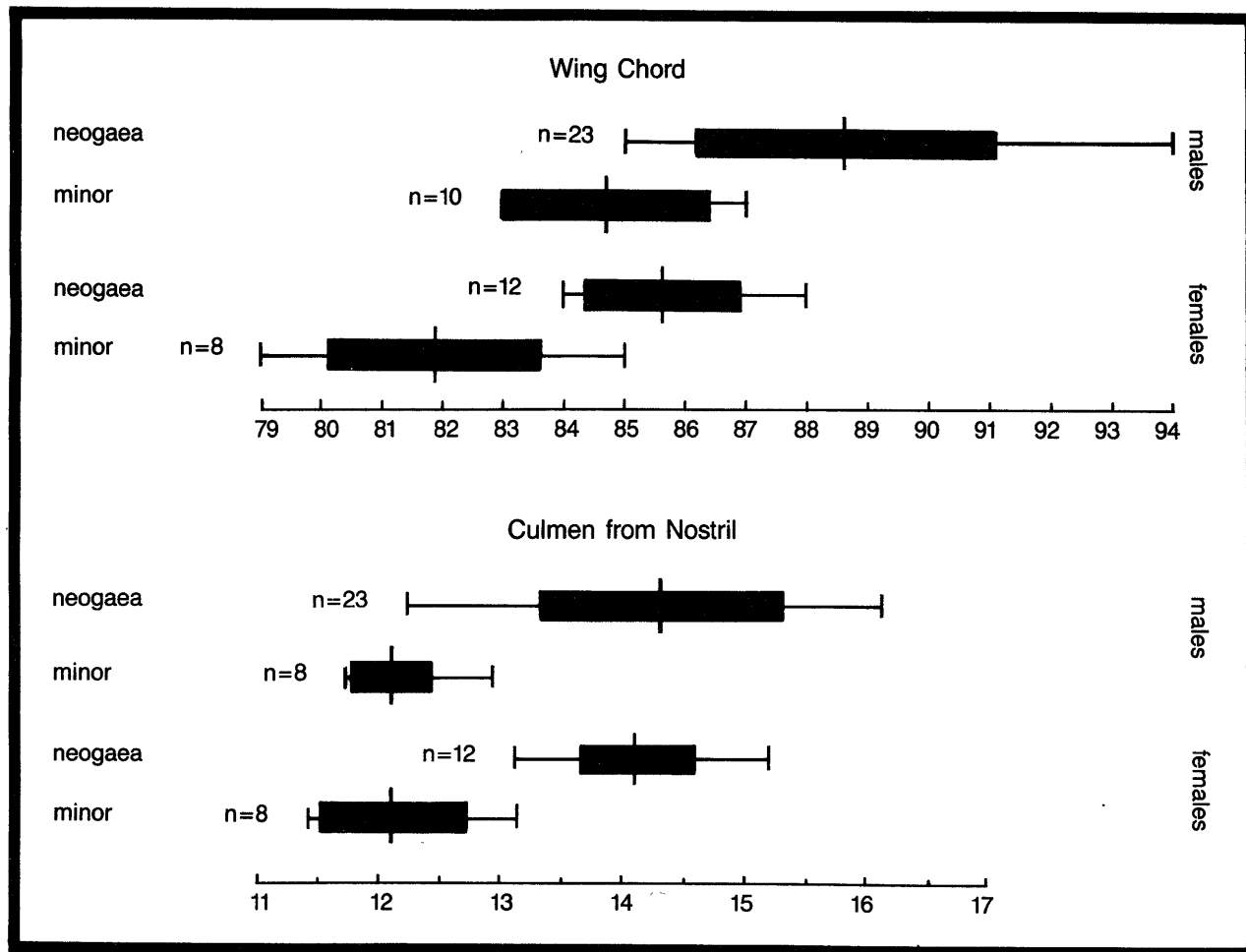
In the previous paper (Dickerman 1986a), I discussed the complex and confused historical and nomenclatural background of the Red Crossbill (*Loxia curvirostra*) in North America, and (Dickerman 1986b) suggested that a dramatic change has occurred in the status of the formerly widespread "Old Northeastern" subspecies (*L. c. neogaea*). In this paper I will summarize the characters of the four subspecies that have been identified from New York and document their occurrence with specimen data. My use of subspecific names, literature cited earlier, and acknowledgments follows my previous paper.

Parkes (1952) recorded three subspecies in New York. He cited all specimens of *minor* (listed as *sitkensis*) and *percna* (listed as *pusilla*), the two non-resident subspecies that he identified. Bull (1974) presented a general account of the species, mapped 23 "known" New York nesting records, and listed four subspecies. Although Bull, while writing "The Birds of New York," had my ribbon copy of Parkes' thesis before him, the accounts of subspecies are at odds. Parkes listed 38 specimens of *minor* that he had examined, while Bull (p. 568) wrote that he had examined "... at least 40 specimens" but ignored some specimens of major flight years listed by Parkes. Similarly, Bull wrote that he had examined "at least nine state specimens ..." of the Newfoundland subspecies *percna* (listed as *pusilla*), while Parkes had been able to find only two specimens typical of the subspecies, and two intermediate between it and *neogaea*. It is obviously time to reevaluate the status of the various subspecies in New York. They are arranged by the size-class schema of Phillips (1981, see Dickerman 1986a).

Characters of the Subspecies

Class I

L. c. minor. This is the smallest subspecies in the world, with the wing chord measuring 80-85 mm, occasionally 78 to 87 mm (Phillips 1981). Males average very slightly larger than females. The bill is short and stumpy, with the tip more down-curved. Phillips (*ibid*) separated the populations of interior British Columbia to Idaho as *L. c. reai*. It was distinguished from *minor* by being duller, with the back less reddish in the male and darker in the female, thus contrasting more strongly with the brighter rump. The female is more deeply ochraceous below. Figure 1 presents measurements of wing chord and of the culmen measured from the anterior edge of the nostril for specimens of *minor* prepared from the 1984-1985 invasion of the northeast, compared with



those measurements from the type series of *neogaea* as published by Paine (1986).

Class II

L. c. neogaea. Males of the "Old Northeastern" subspecies are orange-red, and birds in this size class are slightly larger with wing chord measurements of 85-92 mm. Occasionally females are as short as 81.7 mm (Phillips *ibid*). The bill is larger and straighter than in *minor*. Wing chord and culmen from nostril comparisons of *minor* and *neogaea* are presented in Fig. 1. Phillips characterized the population of the southern Appalachians (which in fact bears the older name *pusilla*) as being darker than *minor* (*pers. comm.*). In general, specimens taken prior to about 1930 are so faded, worn or dirty that they are of little use in making color comparisons. I have not seen recently taken, clean specimens from the southern Appalachians. I tentatively accept that *pusilla* differs morphologically, but have not attempted to segregate the few recently taken Class II specimens. If indeed *pusilla* is not separable from *neogaea* then *pusilla* becomes the name to use for continental Class II populations east of the Rockies and Black Hills of South Dakota. Phillips (1981) described *L. c. vividior* as a Class II subspecies that occurs within the "core range" of *bendirei*, a size class III subspecies in Colorado. While I recognize that even a single flock of Red Crossbills may act as a semi-species, *vividior* is a concept with which I have difficulty, and I have not attempted to follow his lead in this.

Class III

L. c. percna. The population of the humid Newfoundland region is long winged (males 91-96.5 mm, Bent 1937). The male is deep red, the female is a darker green, and both have dusker auricular regions and more of a tendency for a dusky cast to the back of the neck than the following. The bill is large and heavy at the base, especially in specimens from Newfoundland itself.

L. c. bendirei. The Rocky Mountain population is characterized by being large, males with wings measuring 89.4-97 mm, females 85.5-92.5 mm, rarely 94.5 mm (Phillips 1981); with a large slender bill, and generally paler coloration than the Newfoundland subspecies. The females are a brighter yellowish-green, with a paler rump and throat.

Subspecies in New York

L. c. neogaea (Table 1).

I have elsewhere (Dickerman 1986b) discussed the status of the "Old Northeastern" subspecies, but here list all New York specimens examined that have been collected since 1905. Sporadic nesting outside of major flight years of *minor* is probably by the recovering population of *neogaea*. However, I believe that to date only a single post 1905 nesting record is documented with specimens (Grzybowski 1973).

Table 1. New York specimens of *neogaea* examined.

Year	Date	County	Location	Collection	Number
1939	21 Mar	Hamilton	Morehouse	Cornell	18947
1954	22 Aug	Essex	Blue Ridge	Buffalo Mus Sci	3494
1969 ¹	3 Dec	Tompkins	Ithaca	Cornell	34405-34408
1970	20 May	Schoharie	Gallupville	NYSM	34984,34986
1973	11 Feb	Cattaraugus	Rt. 280	Buffalo Mus Sci	7021
	17 Feb	Cattaraugus	Allegany	AMNH	816856
	4 Mar	Cattaraugus	Salamanca	AMNH	816857
1974	24 Feb	Suffolk	Robert Moses State Park	AMNH	815622
1982	30 Mar	Albany	SUNY at Albany	AMNH	816945

Note 1. Also two undated specimens SUNY at Oswego collection #785-786 taken between 1964 and 1977 in Jefferson, Onondaga or Oswego Co.

L. c. minor (Table 2).

Parkes (1952) listed by collection the 38 specimens of *minor* that he examined, collected between the years 1864 and 1951. Flights represented by three or more specimens occurred in 1888, 1913, 1923, 1941 and 1951. To those flight years now may be added 1872, 1954, 1961, 1973-1974 and 1984-1985. Single specimens of *minor* were taken in 1864, 1869, 1874, 1892 & 1893, and 1896 and 1965. There may also have been a major flight in 1894. There are 5 specimens (not seen by myself) in the Roosevelt Wildlife Collection, Syracuse, collected that year in Lewis County that have wing chords of less than 85 mm (Ronald Giegerich *pers. comm.*). In requesting the loan of specimens for this study, I specified I needed to examine only those with wing chord measurements of 85 mm or greater. Thus, the list of specimens collected after 1951 that I have examined represents an unknown portion of the total number of *minor* available.

Probable nesting of *minor* in New York is documented by two females salvaged during the last invasion: AMNH 816426, from 11 miles south of Elizabeth, Essex County, 17 March 1985, had two corpora lutea and a brood patch; AMNH 815935, from North Hudson, Essex County, 15 March 1985, had the ovary moderately enlarged, with ova measuring 2 mm and the oviduct enlarged. Males found in January and March 1985 with moderately enlarged testes (up to 5 x 6 mm) are indicative of, but do not document nesting. The description of nesting of Red Crossbills in Chenango County (Messineo 1986) undoubtedly refers to *minor*. Eight of nine specimens prepared from birds he salvaged there, and another ten or so too mangled to salvage, in December 1984 were small and represent *minor*.

Most specimens in the series of 15 red males and 10 females prepared as study skins from the 1984-1985 invasion (including some from Algonquin Park, Ontario) are dull and have darker backs that contrast sharply with the rump. Females AMNH 816514 and 816515 from Pharsalia,

Chenango County, 15 December 1984, and a male 816423 from 4 mi. east of Elizabeth, Essex County, 16 March 1985, are examples of specimens with these characters. Although both females are not more ochraceous ventrally, these may well represent *rei* if that subspecies proves to be valid.

The 1984-1985 invasion was the first in New York in which two subspecies other than the local one was preserved. A single specimen of *bendirei* was salvaged from birds found dead on the road at Perkins Pond, Pharsalia in Chenango County by David Messineo 15 December 1984. All of the others (ten or more, most badly damaged and discarded after they were identified) were *minor*.

Table 2. New York specimens of *minor* examined.

Year	Date	County	Location	Collection	Number
1872	19 Nov	Herkimer	Stillwater	AMNH	
1875	14 Jan	[Orange]	Fort Montgomery	USNM	235370
	Feb	Putnam	Highland Falls	USNM	235371
1913	6 Jul	Putnam	Cold Spring	NYSM	776a,776b
1922	18 Aug	[Essex]	Paradox Lake	USNM	441822-448184
1941	24 Apr	[Erie]	Angola	Buffalo Mus Sci	2023
1951 ¹	26 Mar	Cattaraugus	Carolton	St. Bonaventure	153-154
	5 Apr	Cattaraugus	Carolton	St. Bonaventure	495
1953	29 Apr	Tompkins	Ithaca	Cornell	24038-24040
1954	19 Mar	Cattaraugus	Carolton	St. Bonaventure	492-494
1955	27 Nov	Hamilton	Speculator	Cornell	30488
1961	13 Mar	Albany	Albany	NYSM	19438
	5 Apr	Rensselaer	Tryo	NYSM	19439
1965 ²		Suffolk	Brookhaven	AMNH	185784
1973	11 Nov	Suffolk	Robert Moses State Park	AMNH	815624,815626
	2 Dec	Suffolk	Robert Moses State Park	AMNH	815625
1984	Dec	Westchester		AMNH	816421-8164221
	Dec	Essex		AMNH	816513
	15 Dec	Chenango	Pharsalia	AMNH	816514-816519
1985	Jan	Hamilton	several localities	AMNH	816427-816429
					816512
	Mar	Hamilton	several localities	AMNH	815423-185426
					815993
					815935-815938

Note 1. Eleven specimens of *minor* collected in 1951 in the Cornell Collection were listed by Parkes (1952) and are not repeated here.

Note 2. Also an undated specimen in SUNY at Oswego collection #793, taken between 1964 and 1977 in Jefferson, Onondaga or Oswego Co.

L. c. percna (Table 3).

As noted above, Bull (1974, p. 568) wrote ". . . at least nine state specimens examined by the writer . . ." However, he was not able to provide me with a list of specimens he so identified, and because of the extensive and extended misapplication of the name *pusilla*, I am suspicious of the "nine state specimens." I believe I have now examined most (if not all) New York specimens with wing chords sufficiently long

possibly to be this subspecies. Griscom (1937) listed only a single record for the state. I found none in the American Museum other than the three listed below of the four that were listed by Parkes (1952). The fourth, AMNH 441600 from Brooklyn without date was not found. I believe it is a rather long-winged and dirty specimen of *neogaea*. Eight more recently taken specimens, six not seen by Bull, were also identified during this study.

The specimens listed below all have large bills. However, none is as heavy-billed as are Newfoundland specimens, although they are typical in other characters. They may represent populations from the coastal region of Labrador. The last two specimens listed are formalin-injected and mummified red males without date, locality or gonad data, but probably obtained from within 20 miles of Oswego between 1964, when the Rice Creek Field Station was established, and 1977, when the specimens were catalogued in the College of Oswego Vertebrate Collection as numbers 540 and 741 (Diann C. Jackson, *pers. comm.*). Their wings measure 96 and 98 mm; the later is larger than measurements for *percna* or *bendirei* (see above). Both are darker red than recently taken, clean male *bendirei* from New Mexico, Colorado and South Dakota. Their bills are long but not as stout as in typical *percna* nor *stricklandi* of the Mexican highlands. I believe that they represent *percna* rather than being from an intergrade zone between *bendirei* and *stricklandi*.

Table 3. New York specimens of *percna* examined.

Year	Date	County	Location	Collection	Number
1875	10 Mar	Orange	Highland Falls	AMNH	75125
1885	27 Jan	Westchester	Sing Sing [Ossining]	AMNH	55541
1908	10 May	Franklin	Paul Smiths	AMNH	229615
1969	4 Dec	Rockland	Harriman State Park	AMNH	801473-801474
1970 ¹	12 Feb	Otsego	Oneonta	AMNH	816902
	12 Feb	Otsego	Oneonta	SUNY Oneonta	70—4
	10 Jul	Otsego	NW part of county	NYSM	35845-35846

Note 1: Also undated specimens AMNH #816904, taken between 1964 and 1977 in Jefferson, Onondaga or Oswego Co.; and AMNH #81603, taken between 1973 and 1977 in Onondaga Co.

L. c. bendirei (Table 4).

Bull (1964) reported the first recognized specimen of the Rocky Mountain subspecies (as *benti*) from New York. It was found on Jones Beach, Long Island, 29 December 1963. The identification of the specimen, now in the University of Kansas Museum of Natural History, was confirmed by A. R. Phillips. To my amazement, I now find that 14 of the 77 post-1950 specimens examined in this study, and not seen earlier by Parkes, are *bendirei*, making it the second most commonly encountered subspecies in the state.

The earliest specimen of *bendirei* from New York was taken in 1878. In late March and early April 1982 Craig Benkman netted Red Crossbills on the campus of the State University of New York at Albany for use in controlled aviary studies of feeding behavior when presented with cones of various species of conifers. Four birds that died after two to 34 months in captivity were deposited at the American Museum of Natural History as voucher specimens for that study. Three of those are *bendirei*; the fourth is *neogaea*. Benkman (*pers. comm.*) reported that Red Crossbills nested on the Albany campus that spring, but the subspecies is unknown. As noted above, the 1984-1985 invasion was the first in which two "exotic" subspecies, *bendirei* and *minor*, were preserved from New York.

Table 4. New York specimens of *bendirei* examined.

Year	Date	County	Location	Collection	Number
1878	Feb	Herkimer	Stillwater	AMNH	816949
1956	7 May	Erie	East Aurora	Buffalo Mus Sci	4395
1967 ¹	spring	Erie	Eden	Buffalo Mus Sci	9085
1972	19 Sep	Cattaraugus	Allegany	AMNH	816859
	28 Sep	Cattaraugus	Humphrey	AMNH	816858
	9 May	Otsego	Oneonta	AMNH	816901
1973 ²	16 May	Otsego	Oneonta	AMNH	816900
1979	28 May	Onondaga	Beaver Lake	SUNY Oswego	1382
1982	1 Mar	Otsego	Westford	SUNY Oneonta	82—9
	30 Mar	Albany	SUNY Albany	AMNH	816946-816947
	7 Apr	Albany	SUNY Albany	AMNH	816948
1984	15 Dec	Chenango	Pharsalia	AMNH	816520

Note 1. Also two undated specimens SUNY at Oswego collection #742 and 787 taken between 1964 and 1977 in Jefferson, Onondaga or Oswego Co.

Note 2. This is probably an error of transcription when the label was prepared, and the year should be 1972. W. L. Butts kindly verified that the catalogue data agrees with the label data. However, the probability that two specimens of an uncommon subspecies were taken the same month at the same place during an invasion year of that subspecies is much greater than the probability that they were taken in two successive years.

Discussion

Four subspecies of the Red Crossbill have been found in New York. At least two and probably three subspecies have bred in the state. The small subspecies *minor*, whose core range is the coastal region of the Pacific northwest, is the most frequent and abundant population found in New York. Because it occurs in such large numbers during invasion years it may well be our most numerous nesting form! The "resident" subspecies *neogaea* may be recovering in numbers after the massive population crash of the 1905-1912 period as large areas second growth white pine and hemlock reach maturity.

Every occurrence of Red Crossbill in New York should be documented with specimens deposited in one of the major collections. The sub-

specific identity of even mashed birds found on the highways usually can be determined, and they can be preserved as voucher specimens. Most of all, we need to document nesting, preferably, with specimens prepared of entire families, although one hates to do it. Such collecting would have almost no impact on the populations, but it would make a real contribution to our knowledge of the biology of this species.

Literature Cited

- Bull, John. 1974. *The Birds of New York*. Doubleday, New York. 655 pp.
- Dickerman, Robert W. 1986a. A review of the Red Crossbill in New York. Part 1. History of systematics and nomenclature. *Kingbird* 36: 73-78.
- 1986b. Status of the "Old Northeastern" subspecies of the Red Crossbill. *American Birds* (to be submitted).
- Gryzbowski, Joseph A. 1973. 1973 nesting records. *Prothonotary* 39: 93-101.
- Messineo, David. 1986. The 1985 nesting of Pine Siskin, Red Crossbill and White-winged Crossbill in Chenango County, NY. *Kingbird* 35: 233-236.
- Parkes, K. C. 1952. *The Birds of New York and Their Taxonomy*. Unpubl. Ph.D. dissertation, Cornell University.
- Payne, R. B. 1986. Populations and type specimens of a nomadic bird; comments on the North American Crossbills *Loxia pusilla* Gloger 1834 and *Crucirostra minor* Brehm 1845. Univ. Mich. Publ. Zool., *in press*.
- Phillips, A. R. 1981. The races of the Red Crossbill, *Loxia curvirostra*, in Arizona. Appendix pp 223-230 in G. Monson and A. R. Phillips, *Annotated Checklist of the Birds of Arizona*, 2nd Ed., Univ. Ariz. Press, Tucson.

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