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... from the editor's desk

IN ADDITION TO BEING THE LAST ISSUE IN VOLUME 43, THIS IS THE first issue to reach you in the new decade. The 1980s were, in general, very good to *American Birds* and consequently to you, our loyal readers. We saw progress, experimentation, a growth in readership, and publication of some really solid information for anyone interested in birds.

A review of a few statistics for this past decade indicates that we've shown healthy expansion. In 1980, we published 950 total pages, 247 of which were devoted to regional reports. In 1989, of our total 1394 pages published, 404 of them comprised regional reports.

In 1980, there were 1320 Christmas Bird Counts involving 32,000 participants. In the following decade, the counts themselves increased by more than 240 with increased participation of more than 10,000 people. Absolutely remarkable numbers when one considers the modest beginnings of the 25 pioneer birders who conducted the first Christmas Bird Counts on Christmas Day in 1900, at sites from Scotch Lake, New Brunswick, to Pacific Grove, California.

In the decade just ended we brought you more identification, distribution, behavior, and migration articles, a good many of which were accompanied by color and black-and-white illustrations. We started some much appreciated columns like "The Practiced Eye", "Facts, Inferences, and Shameless Speculations", and "American Birding". Our ICBP columns, covering conservation topics directly impacting bird populations, are apparently just what birders crave.

In this issue, we introduce you to a new column that will parade under the headline "Birding for Fun" written by Paul R. Ehrlich, co-author of *The Birder's Handbook*. Paul is America's foremost ecologist and no one has contributed more broadly to that science or explained its larger implications to the world through his writing. Fortunately for us, he discovered early on that birding is habit-forming and, by his own admission, he's hooked. I invite you to read his columns for unqualified pleasure; the profit in knowledge and understanding will accrue quite without effort.

In the 1990s, we'd like to structure *American Birds* so that it meets the needs of our readers. Let us know what you'd like to see in these pages.

With this issue we send the fondest best wishes for a Happy New Decade from our entire staff and most of all GOOD BIRDING in 1990.

—Stay tuned!!!
S.R.D.

RETORTS, REFLECTIONS, AND THOUGHTFUL REFUTATIONS

I have been following with interest and trepidation the articles of J. P. Myers in recent issues of *American Birds*.

I am aware that the format intended to pique one's interest and also to be witty and informative. Alas, in my opinion the results are disappointing.

Where does science enter the picture? Surely Mr. Myers does not advocate the destruction of thousands of gulls and ravens without addressing the cause; if that is the cause, on the explosion of bird numbers, i.e. the expansion of land fill dumps. Where is the data? Surely he does not use hearsay evidence as the spur to control.

But then is he really advocating control? Who knows? I am sure you realize that evocative satire always in the end must make a clear definitive point.

Mr. Myers articles don't quite work and in the end appear somewhat vacuous.

Tony Lauro
Amityville, NY

I enjoyed reading J. P. Myers's column regarding the extent to which we interfere with the process of nature. He chose an excellent example which is the present dilemma that exists between the desert tortoise and the raven in the Mojave desert of southern California.

To save the tortoises, particularly babies, ravens must be controlled or, in other words, killed. Is it because of beauty or awe that we want the tortoise or any other endangered species to live? Whatever the reason, above all, we just want to see it in its natural habitat, or perhaps we are waiting for a pioneering scientist to discover some valuable medical use for the tortoise.

Plain selfishness, I say. If the tortoise was meant to die, let it die. That is the way nature is supposed to go. We would not even be here if some crazy maniac from outer space kept the dinosaurs alive.

Charles Darwin with his extraordinary ideas, wrote that in order for an organism to survive it must be able to

adapt and become fit to any change in environment. Take for example the cryptic colorations of moths or insects that look like leaves and sticks; they are all adapted to escape from predators. Thus how can we be sure that the tortoise will not devise some way of protecting itself from ravens? And how are we sure that our seabirds will not adapt to the so often unfortunate

This is your page. To do with as you please, We hope that you will be provoked, excited, energized, and challenged by Pete Myers' column, and we dedicate this space to your insight, opinions, ideas, recommendations, questions, complaints, challenges, and daydreams. Write to Retorts, *American Birds*, 950 Third Ave., New York, NY 10022.

oil spills in our oceans? Gulls have adapted so well to our creations; they can often be found by the thousands on city dumps. Could a new species arise out of all *our* creations?

We do not condemn ants for being so sophisticated that they can build such magnificent underground structures, so why should our technological achievements be restricted in certain areas? It is because of technology that we are still living here today. I cannot think of many people, even naturelovers, who can survive out in the wilderness without any essential items. Nature meant for ants to build cities, raise aphids, and become kings of the insect world, and similarly, nature also meant for us to become kings of the animal kingdom and create things that were once beyond any creature's imagination.

When we interfere with nature's process, we are in fact destroying the process of evolution (that's how we got here, remember!). I am not in the least bit suggesting that we carelessly build cities all over our existing natural lands (I wouldn't even think of that!). What I am trying to say is that we should, at least once in a while, allow the animals and plants of this world evolve by themselves without

any of our help. If they can't adapt then they will die, but if they are able to adapt there may be a new species. At present we do not even know the probability of an animal being able to adapt because we have not given a sporting chance to evolution. Why not leave our selfishness and greed in trying to save the last jelly beans. Who knows, perhaps we will end up with more. Sorry environmentalists.

Cin-Ty Lee
Riverside, CA

I enjoyed your article "Gulls and what gulls eat" (Volume 43, Number 2). You almost got it right—up to the conclusion.

In the game of life, nature has the last laugh. Whatever happens in the long run is natural. Most, if not all, species on earth today are doomed to extinction. Intrusion, rather than its opposite, is the grand self-delusion. And favoring, for example, terns over gulls is an aesthetic decision not an ethical one.

An example from my own experience: Some years ago some enthusiasts wanted to bring the Peregrine Falcon back to the Susquehanna Valley and, with great enterprise and expectations, attempted to raise some young atop an old bridge piling out in the middle of the river where, presumably, they would be safe. Unfortunately, for the birds and their attendants, the young were picked off by Great Horned Owls. The cries of outrage were loud and fierce, and demands were made for the annihilation of the owls. It seemed to me that the owls have survived where the falcons couldn't and have just as much "right" there as any other species. It was just that some people preferred peregrines to Great Horned Owls. I am neutral on that one.

I find that I try to annihilate dandelions (a pretty flower) and cultivate roses, but I realize that that is just prejudice on my part and part of me

Continued on page 1382

A good case can be made for the natural occurrence of Eurasian Siskins in North America, but females can easily be confused with Pine Siskins

Eurasian Siskins in North America—distinguishing females from green-morph Pine Siskins

Ian A. McLaren, Joseph Morlan,
P. William Smith, Michel Gosselin, and
Stephen F. Bailey

Figure 1. Dorsal view of the green-morph Pine Siskin in Halifax, Nova Scotia, early April 1986. Photo/I. McLaren.

ON MARCH 26, 1986, AN UNUSUAL siskin turned up at McLaren's feeder in Halifax, Nova Scotia. It was dark grayish-green on the back, with strong yellow wing and tail patches, a greenish-yellow rump, and tinged with yellow on the head and underparts. Furthermore, it appeared smaller and its bill seemed deeper than average among scores of Pine Siskins (*Carduelis pinus*) coming to the feeder. The local birding community was quickly alerted to a possible female Eurasian Siskin (*C. spinus*). Until April 28, it was studied closely by many people, including some familiar with Eurasian Siskins in Europe, and all seemed content with this initial identification. Its plausibility seemed reinforced by news of an unusually large irruption of the species into Great Britain that winter (see below).

During its stay, three other greenish siskins appeared at feeders in Nova Scotia—two in Halifax and one in Yarmouth. However, photographs seen by McLaren show that the bird from Yarmouth and one from Halifax

were clearly Pine Siskins in other attributes, and they were not widely reported. The original Halifax bird (Figs. 1, 2) required more research before finally being identified as an example of the little-known green morph of the Pine Siskin.

Meanwhile, in late February 1987 an unusual siskin flew into a window of C. J. Ralph's house in Arcata, California. The bird was stunned briefly, but recovered. Ralph noticed its unusual plumage, but did not consider that it might be a Eurasian Siskin until Dave DeSante saw the bird along with another green individual several days later. Both were then seen by several interested people, none of whom could recall seeing a Pine Siskin in such bright plumage. One bird was then trapped, measured and photographed by Ralph (Fig. 3, 4), and released. These birds generated much interest among California birders and one of them was seen by Bailey and Morlan on March 1, 1987. It became clear that the literature was inadequate for certain identification of the bird, although Morlan *et al.* (1987)

suggested that it was probably a Pine Siskin because of its bright yellow undertail coverts, a feature lacking in Eurasian Siskins (Witherby *et al.* 1943). The photographs show that the bird was definitely a green-morph Pine Siskin, based on this and other characters discussed below.

Our purposes in writing this account are to review available information on claimed occurrences of the Eurasian Siskin in North America and evaluate the plausibility of natural vagrancy, to describe and analyze the green morph of the Pine Siskin, and to compare field marks of this morph with those of the female Eurasian Siskin, so that other observers will not be misled in future.

Occurrences of Eurasian Siskins in North America

There are definite records of Eurasian Siskins in North America (*e.g.*, Fig. 5); only their natural occurrence is in doubt (American Ornithologists' Union 1983). Ridgway (1901) states that "although introduced, with other European birds, into Oregon, there is



Figure 2. Ventral view of the green-morph Pine Siskin in Halifax, Nova Scotia, early April 1986. Note the extensively deep-yellow tail patches and yellowish on undertail coverts. Photo/I. McLaren.



Figure 3. Dorsal view of the green-morph Pine Siskin captured in Arcata, CA, in late February 1987. Note the whitish fringes of the lesser and greater wing coverts, the latter underlain by extensive deep yellow of the bases of flight feathers. Photo/C. J. Ralph.

no record to the effect that this species has become naturalized," and the A.O.U. *Check-list* (A.O.U. 1983) also mentions its unsuccessful introduction in Ohio. Tables 1 and 2 summarize all published North American reports known to us of Eurasian Siskins, excluding the two unsuccessful introductions. We are also aware of some other unpublished sightings of purported females; we regard these as unsatisfactory.

Data available on the legal importation of birds into the United States compiled by Smith (Table 3) include moderate numbers of this species and other siskins compared with some other cagebirds. Thus, any or all the Eurasian Siskins in North America could have escaped from captivity. This is also true of other species such as the rarely imported Brambling (Table 3), whose acceptance as a genuine vagrant is based on its pattern of occurrence in areas remote from probable release of cagebirds. Of all the records, perhaps the sightings in Alaska and Newfoundland (Table 2) and the photograph from St. Pierre (Table 1) are geographically most suggestive of wild vagrants.

Note that all but one confirmed Eurasian Siskins and the three unconfirmed sightings of males are from the northeast coast or the Aleutians. Some of these reports come from densely populated areas where escaped cagebirds are more likely, but also where more birding is done. Inland reports, in contrast, all involve claimed females, and from details available to us we believe that most if not all of these were green-morph Pine Siskins (see below). This lack of confirmed Eurasian Siskins inland, where escaped cagebirds should be just as frequent as along the coast, strongly suggests a pattern of vagrancy from Europe and Asia.

There are other reasons why Eurasian Siskins might arrive naturally in North America. The species breeds discontinuously over the boreal zone of the Palearctic west to Scotland, where it has increased markedly since 1950 due to afforestation (Thom 1986). It has also nested in Ireland since the late 19th century and in southern England since the 1950s (Sharrock 1976). Banding recoveries show that birds from Scandinavia and the mountains of central and eastern Europe often irrupt westward to



Figure 4. Ventral view of the green-morph Pine Siskin (right), together with two normally plumaged individuals, captured at Arcata, CA, in late February 1987. Note the extensively yellow rectrices and undertail coverts of the green-morph bird. Photo/C. J. Ralph.

coastal Europe and the British Isles in fall (September to November), returning in spring (March to May). A major influx occurred in England and Ireland during winter 1985–1986 (Dawson and Allsopp 1986a; Dawson and Allsopp 1986b). However, banding recoveries indicate that most of these birds came from Scotland rather than Scandinavia (R. Hudson, British Trust for Ornithology, in lit.). As with other irruptive species, banding data suggest that the Eurasian Siskin neither breeds nor winters at the same location in successive years. In fact no

proven individual has ever been proved to nest closer than 120 kilometers to its original breeding site in a consecutive year, and one bird is known to have wintered at two locations 2000 kilometers apart (Newton 1973).

Migrating or irrupting Eurasian Siskins can clearly make long flights over water. At isolated locations such as Fair Isle, between the Shetlands and Orkneys, it occurs annually in both spring and fall (Hollaway and Thorne 1981), with peaks as high as 235 on September 20, 1984 (Riddiford 1984).

In the Faroe Islands there were seven records through 1983, all in May or in September or October; it is thought to be more regular now than formerly (Bloch and Sørensen 1984). In Iceland there have been recent occurrences in spring and fall: over a dozen reports in the fall of 1980, mostly in early November (Petursson and Skarphethinsson 1982); and subsequently two records in May 1982, one on October 15, 1983, and three in October 1984 (Petursson and Olafsson 1984, 1985, 1986). There are also reports from weather ships on station west of the British Isles and south of Iceland seven individuals on October 28, 1971, at 52°30'N, 20°00'W (Tuck 1973), and one on October 30, 1975, at 57°00'N, 20°00'W (Casement 1977).

In conclusion, we believe that there is a good case for the natural arrival of some or all confirmed Eurasian Siskins in North America, and for the transfer of the species from Appendix B of the A.O.U. *Check-list* to the main list.

The Green-Morph of the Pine Siskin

There have been few comments on greenish Pine Siskins in the literature, generally in the context of discriminating them from female Eurasian Siskins. Ridgway (1901), possibly referring to this greenish plumage, states: "I have not been able to discover a single positive character whereby the adult female and young [Eurasian Siskin] may be infallibly

Table 1. Records of Eurasian Siskin (all males) in North America confirmed by specimen or photograph (all of which have been personally inspected by Smith)

Locality	Dates	Comments
Kittery, ME	March 24, 1962	Trapped at banding station and kept caged until November 1962; no evidence of prior captivity (Borrer 1963). Specimen MCZ No. 262138.
New Bedford, MA	late March to at least April 3, 1969	At feeder. Generally ignored on presumption it was an escaped cagebird; see Johnson (1969); photos on file Massachusetts Audubon Soc.
Bloomfield, NJ	February 11–27, 1983	At feeder. Published photo in Black (1983) now in NJ Rare Bird Photo File of NJ Audubon Society
Rockport, MA	May 5, 1983	At banding station. Copies of published photos by P. W. Smith (<i>in</i> Norris 1983) given to Massachusetts Audubon Soc. See also Nikula (1983). Reproduced here as Fig. 3.
Petite Miquelon, St. Pierre et Miquelon	June 23, 1983	Photographed by Alain Debrosse (Debrosse St. and Etcheberry, MS; see also Tingley 1983).
Etobicoke, ONT	February 6 into March, 1988	At feeder. Photo in Weir (1988), who commented "its origins remained in doubt."



Figure 5. A male Eurasian Siskin captured at the Norris banding station (Norris 1983) at Rockport, MA, May 5, 1983. Photo/P. W. Smith.

distinguished from *S. pinus*". Blake (1976), writing on the sighting in 1973 in Wisconsin (see Table 2), states: "What is not apparently generally known is that, although the Pine Siskin usually has hen-feathered males, once in a very long time it produces a cock-feathered male." Such males, which in terms of other siskin species are more female-like, are here referred to as green morphs, although the plumage appears to be restricted to males. Ryan (1981) warns about "aberrant

plumage characteristics of Pine Siskin when trying to identify European Siskin." The only field guide reference to the plumage seems to be that by Eckert (*in* Farrand 1983), who notes that some Pine Siskins "have little streaking on the underparts, an obvious greenish tinge above, and brighter and more extensive wing and tail patches" may "resemble Eurasian Siskins and can be misidentified."

Pine Siskins were examined by Gosselin at the National Museum of Canada in Ottawa (NMC), by McLaren at the Royal Ontario Museum in Toronto (ROM), the British Columbia Provincial Museum in Victoria (BCPM), the Museum of Comparative Zoology in Cambridge, Massachusetts (MCZ), and the British Museum (Natural History) in Tring (BMNH), and by Bailey at the American Museum of Natural History in New York (AMNH) and the California Academy of Sciences in San Francisco (CAS). The specimen trays hold a striking diversity of plumages. However, only five individuals of some 300 in the NMC, four of 330 in the ROM, two of 400 in the MCZ and one of

215 in the CAS are strongly dark greenish (the AMNH specimens were sampled differently). In addition, two among 120 in the BCPM and one of 160 Pine Siskins in the BMNH are quite greenish, although not so strikingly so as the NMC, ROM, and MCZ individuals. Thus it appears, to the extent that these collections are unbiased, that only about one percent of Pine Siskins might be classed as green morphs. There appear to be no seasonal or geographical patterns in the incidence of this plumage.

These greenish Pine Siskins look like ordinary ones that have lost their heavy brown streaks, revealing an underlying pattern of gray and yellow that blend into green hues overlaid by a fainter remnant of the original streaking. This may be interpreted as an example of schizochromism, in which the phaeomelanin (brown) is reduced or absent while both eumelanin (black) and carotenoids (yellow) are retained (Campbell and Lack 1985).

Male Pine Siskins distinguished by Oberholser (1974) as a "gray phase" have the normal amount of yellowish

Table 2. Unconfirmed published reports of Eurasian Siskins in North America. All are sight records, with no photographic evidence known to us.

Locality	Dates	Comments
Cambridge, MA	August, 1904	Male seen by William Brewster (1906) who thought that it had probably escaped, although it was wary and unworn.
Holyoke, MA	March 14–April 26, 1972	A feeder bird "thought to be a female" described briefly and inconclusively (<i>Bird News Western Mass.</i> 13: 30 [1972]).
Kenosha, WI	December 22, 1973	A female during a Christmas Count, well described by DeBenedictis and Fiehweg (1974); see also Janssen (1974). Large yellow tail flashes imply Pine Siskin.
Buffalo, WI	February 3–March 3, 1974	A poorly described female at feeder, first thought to be a Cape May Warbler (Maier and Maier 1974)! This report was followed by one of an aberrant Pine Siskin (Woodcock 1974).
Attu, AK	June 4, 1978	A single-observer sighting of a male, well described by T. J. Savaloja (Kessel and Gibson, unpubl. records). Noted in Roberson 1980.
Terra Nova N.P., Newfoundland	February 13, 1980	A single-observer sighting of a male, well described by Burrows (1980).
Urbana, IL	January 31–February 8, 1981	A "well described female" was listed as an "exotic" by Peterjohn (1981), and the record is discussed further by Peterjohn in Ryan along with reference to a bird in Toledo, that "lacked substantiating details."
Verona, NJ	March 11–16, 1983	Male reported without dates (Black 1983) and assumed by Boyle <i>et al.</i> (1983) to be the same individual confirmed at Bloomfield (see Table 1). From interviews, Smith believes this record unconfirmed.
Halifax, N.S.	March 26–April 28, 1986	Reported as having "exhibited field marks of a female Eurasian Siskin" (Mactavish 1986), here identified as a Pine Siskin.

Table 3 Eurasian Siskins and some other birds imported into the United States, 1969–1974. Data from Banks (1970), Banks and Clapp (1972), Clapp (1975), Clapp and Banks (1973a, 1973b), and Greenhall (1977).

Species	Total imported
Eurasian species	
European Goldfinch (<i>Carduelis carduelis</i>)	4442
Common Rosefinch (<i>Carpodacus erythrinus</i>) ¹	1695
Eurasian Bullfinch (<i>Pyrrhula pyrrhula</i>)	844
Eurasian Linnet (<i>Carduelis cannabina</i>)	398
Common Serin (<i>Serinus serinus</i>)	379
Eurasian Siskin (<i>Carduelis spinus</i>)	272
Common Chaffinch (<i>Fringilla coelebs</i>)	190
European Greenfinch (<i>Carduelis chloris</i>)	116
Hawfinch (<i>Coccothraustes coccothraustes</i>)	24
Brambling (<i>Fringilla montifringilla</i>)	20
Neotropical species	
Hooded Siskin (<i>Carduelis magellanica</i>)	1142
Black-headed Siskin (<i>Carduelis notata</i>)	159
Black Siskin (<i>Carduelis atrata</i>)	15
All species, all families ²	3,737,636
Psittacidae, Sturnidae, Ploceidae, Estrildidae only	2,910,162

¹ Some of these may be related species

² Excludes ca. 500,000 canaries not reported in 1968–1969

pigment in the body plumage, and thus may have only a faintly greenish cast (Fig. 6). Darker green individuals like the Halifax (Fig. 1) and Arcata (Fig. 4) birds seem to have an extra dose of carotenoids, and thus are xanthochroistic as well as schizochroistic. This is evident in the deep yellow of their wing and tail patches. The extent and intensity of the patches vary independently; thus the grayish bird on Figure 6 has very large wing patches, but these are the typical pale yellow of normal Pine Siskins.

The green morph occurs largely or entirely in male Pine Siskins. All the strikingly dark green birds in the museum collections examined by us are males. This sex bias may be the basis for Blake's (1976) supposition that they represent "cock-feathered" rather than the normal "hen-feathered male." They are very drab compared to males of other cardueline finches,



Figure 6. A gray-morph Pine Siskin in Halifax, Nova Scotia, late April 1986. Note that the yellow on wings and tail is extensive, but not strong in hue and that the back is only faintly greenish. Photo/I. McLaren.

and probably are not a throwback to an ancestral cock plumage of this species. It is perhaps significant, however, that bright cock plumages of some other carduelines do appear to develop partly through "turning off" the bold brown immature streaking (as in most *Loxia*, *Carpodacus*, and *Carduelis*). One Newfoundland specimen (MCZ 25615), however, is labeled as a female. It has a heavily streaked, yellowish rump, and strongly yellow wing and tail patches, but its back is not as purely greenish as those of the males examined.

It should also be noted that juvenile Pine Siskins may resemble green morph adults in having yellow below, especially on the undertail coverts. They differ from the green morphs in usually having more extensive yellow ventrally, and in lacking the greenish suffusion above and the strong yellow patches on wings and tail. This plumage, which is illustrated in Scott (1987), may be lost before the birds migrate.

Identification of Female Eurasian Siskins

It is clear that some adult male Pine Siskins look like female Eurasian Siskins (cf. Fig. 1, 7). Fortunately, adult male Eurasian Siskins are easily distinguished, although they do bear a superficial resemblance to some neotropical siskins. Svensson (1984) indicates that male Eurasian Siskins are identifiable as such by their first winter. Thus we are faced only with the

problem of distinguishing female Eurasian Siskins from green-morph male Pine Siskins.

Size. The Eurasian species averages smaller than the Pine Siskins, but not much. Weights of Pine Siskins (Clench and Leberman 1978) and Eurasian Siskins (Sellers 1986) are seasonally and diurnally variable and show much overlap. Wing lengths are often measured differently by European (flattened wing) and North American authors (unflattened), so we measured unflattened wing chord (11 millimeters) of the nine green-morph Pine Siskins in the NMC and ROM (mean 72.8, S.D. 1.79, range 70.0–76.1) and the seven female Eurasian Siskins from Europe in the ROM (mean 68.9, S.D. 1.99, range 67.2–72.5). It is clear that the two species cannot be reliably discriminated by size.

Bill size and shape. The Halifax bird had a deep bill compared with most Pine Siskins (cf. Figs. 2 and 8). Bill measurements by McLaren may be more comparable *inter se* than those from the literature. Five female and seven male Eurasian Siskins from Europe (others were broken or gaping) in the ROM were compared with six male and six female Pine Siskins chosen at random. Although the bills of the Pine Siskins appeared longer, their exposed culmen length proved very similar to that of the Eurasian Siskins, perhaps because of greater extension of the culmen onto the roof of the



Figure 7. A female Eurasian Siskin in Coventry, England, February 1982. Note the paler yellow wing markings compared to the green-morph Pine Siskin (Figs. 1–4). Photo/Alan Millward.



Figure 8. A first-winter Pine Siskin in Halifax, Nova Scotia, late April 1986. Note the thin bill (compare with Fig. 7). Photo/ I McLaren.

skull in the latter. Therefore, length was measured from the anterior edge of the nostril to the tip of the bill. This averaged significantly greater ($t = 4.06$, d.f. 20, $p < 0.01$) in Pine Siskins (mean 8.88, S.D. 0.36, range 8.5–9.7 mm) than in Eurasian Siskin (mean 8.36, S.D. 0.26, range 7.9–9.0 mm). Bill depth, however, was significantly smaller ($t = 9.36$, d.f. 20, $p < 0.001$) in Pine Siskins (mean 5.80 mm, S.D. 0.29, range 5.3–6.4 mm) than in Eurasian Siskins (mean 6.31, S.D. 0.23, range 6.1–6.8 mm). Although these

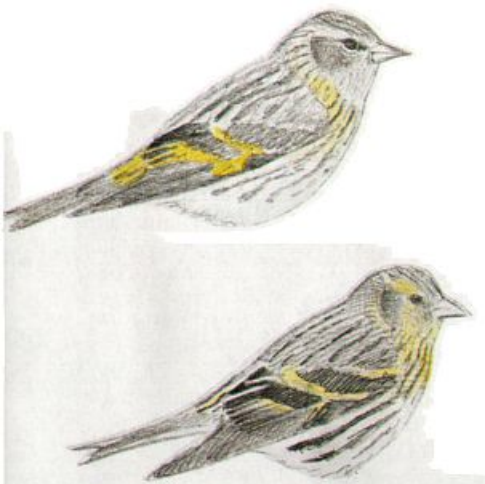


Figure 9. Sketch by Lars Jonsson of the green-morph Pine Siskin in Halifax, Nova Scotia, based on photographs (upper figure), together with that of a "typical" or composite adult female Eurasian Siskin (lower figure). Note the following features on the Eurasian Siskin: more distinct upper wing bar; broader and whiter lower wing bar; less prominent wing flashes (bases of secondaries); dark streaks on undersides most prominent on flanks; less contrasting ear coverts (not always so); stouter and more curved (not always) culmen.

measurements overlap, they represent a visibly different average bill shape, due largely to the deeper base of the lower mandible in Eurasian Siskins and the very long, thin bills of some Pine Siskins (e.g., Fig. 8).

Although the culmen on the Eurasian Siskin is commonly illustrated as curved (as in Fig. 7), and that of the Pine Siskin as straight (as in Fig. 8), this is not a reliable difference. Among birds in the Museum of Vertebrate Zoology, University of California at Berkeley, culmens of 28/39 Eurasian Siskins and 36/397 Pine Siskins were scored as curved. Furthermore, curvature of the culmen may only be evident when the bill is observed or photographed from a strictly lateral aspect.

Plumages. The striking similarity of plumages between female Eurasian Siskin and some green morphs of the Pine Siskin is the heart of the identification problem. In our analyses, we have been greatly aided by the comments of and the illuminating sketch (Fig. 9) by Lars Jonsson who, unlike two other European experts to whom we submitted copies of slides, immediately recognized that the Halifax bird was not a Eurasian Siskin.

1. The wing bars of Eurasian and Pine siskins are variably illustrated in field guides and other references. Those of Pine Siskins are often shown as more modest and less deeply yellow than those of Eurasian Siskins. However, specimens of female Eurasian Siskins seen by us generally do not have such bright wing markings. Lars Jonsson (in lit.) judged, from photographs of the Halifax bird (Fig. 1, 2), that "the bright wing flashes of yellow are absolutely too bright for a female [Eurasian] siskin." Furthermore, the pattern of yellow differs. Both may have variable amounts of yellow, with virtually none in some Pine Siskins, but prominent in our green morphs, on the bases of the primaries and secondaries and on the inner webs of the tertials. Field guide illustrations of Pine Siskins generally show one or two whitish wing bars with a yellow flash at the base of the outer primaries, and this is indeed the commonest arrangement. However, the margins of the greater wing coverts may appear yellowish in Pine Siskins, especially in green morphs. Although the posterior wing bar may be slightly yellowish, this appearance in Pine Siskins derives

largely from the underlying deep-yellow bases of the secondary feathers that show through the whitish and often worn greater covert margins (see Fig. 3). Virtually all field guide illustrations of female Eurasian Siskins show two yellowish wing bars. Indeed, both the median and greater coverts of adult female Eurasian Siskins have yellowish margins, although the former may be covered by scapular feathers in perched birds. Also, the yellowish margins of the greater coverts in female Eurasian Siskins are generally broader than those on green-morph Pine Siskins, although they may be narrowed by wear. The yellowish bases of the secondaries in female Eurasian Siskins do not extend much if at all beyond the yellowish tips of the greater coverts. In conclusion, the eye-catching prominence of yellow on their wings has a different basis in female Eurasian Siskins and green-morph Pine Siskins: two wing bars in the former, and deeper and more extensive yellow at the bases of flight feathers in the latter.

2. The yellow tail patches of female Eurasian Siskins are less deeply yellow and less extensive than those of green-morph Pine Siskins, in which they may extend almost to the tip of the tail medially (e.g., Figs. 2, 4). This is probably a sexual difference, as male siskins do have more extensive deep-yellow tail patches than females (Pyle *et al.* 1987).

3. Dorsal views of green siskins, while likely to attract attention among a flock of Pine Siskins, are least distinctive. Views of the underparts are more useful. Green morphs always lack the heavy, dark streaks usual in brownish Pine Siskins, and some have almost no streaking below. When present, the streaks appear broad and diffuse compared with those of female Eurasian Siskins, on which the streaking of the flanks, especially posteriorly, is always broad, dark and sharp-edged (Fig. 10). Female Eurasian Siskins also have a larger un-streaked area on the lower breast and belly (Fig. 10).

The distribution of yellow on the underparts differs in the two birds (Figs. 9, 10). Female Eurasian Siskins are variably yellow on the upper breast. The yellow is more extensive and less bright in most green-morph Pine Siskins and often occurs on the flanks.



Figure 10. Ventral view of specimens of a green-morph Pine Siskin (NMC 83635, left) and a female Eurasian Siskin (NMC 45425, right). Note the extensive yellowish on the underparts of the former and its confinement to the upper breast on the latter. Photo/M. Gosselin.

The undertail coverts of most green-morph Pine Siskins (including both the Halifax and Arcata birds) are yellowish, a feature not found on any specimens of female Eurasian Siskins, some of which do have a little yellow immediately behind the legs. However, yellow undertail coverts are not always noticeable on specimens of green-morph Pine Siskins. Thus, yellow undertail coverts, if they can be seen, exclude the Eurasian Siskin; but their absence does not infallibly signify this species.

4. Although green-morph Pine Siskins may have more contrasting ear patches than do female Eurasian Siskins (*cf.* Figs. 2, 7) this is not a consistent or easily observed difference. We find no other differences in facial or dorsal plumage that might assist discrimination in the field.

In conclusion, close study of bright green-morph Pine Siskins should distinguish them from possible vagrant (or escaped) female Eurasian Siskins. Most important, the large yellow tail and wing patches that may first draw attention to a green-morph Pine Siskin at the same time eliminate the possibility of female Eurasian Siskin. In contrast, real female Eurasian Siskins are not so brightly marked and could easily be overlooked among Pine Siskins. The best field mark is

the pattern of the wings: two yellowish wing bars and limited yellow at the base of the flight feathers in Eurasian Siskins, and two whitish wing bars with an extensive yellow primary patch on Pine Siskins. Yellow undertail coverts, if present, eliminate female Eurasian Siskin. Bedazzled observers should try to obtain color photographs for closer analysis.

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Front cover photograph: Great Egret (*Casmerodius albus*). Photograph/Tom J. Ulrich.

Back cover photograph: Two White Ibis (*Eudocimus albus*) in the Florida Keys. Photograph/Arlene Spagna.

FAMILY PORTRAITS

Number One



CHICKADEES, THOSE DIMINUTIVE, ENERGETIC ACROBATS of twig and bough, enliven the forests, woodlots, and suburbs of North America. Even on the coldest of winter days, their unmistakable *chik-ka-dee-dee, chik-ka-dee* adds a note of joy to the woods. Winter groups of chickadees—accompanied by titmice, nuthatches, woodpeckers, and others—make the rounds of neighborhood

birdfeeders and feeding spots every day, arriving at each feeder with the impact of a traveling circus. Five kinds of chickadees are common and widespread in North America, and all parts of the United States save the desert Southwest have at least one.

CHICKADEES

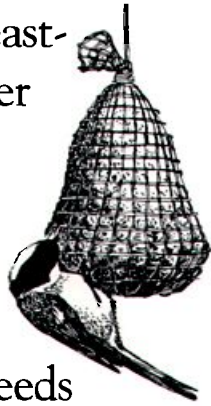
1. Chestnut-backed Chickadee 2. Boreal Chickadee
 3. Black-capped Chickadee 4. Mountain Chickadee
 5. Carolina Chickadee

Painting by
 JOHN DAWSON

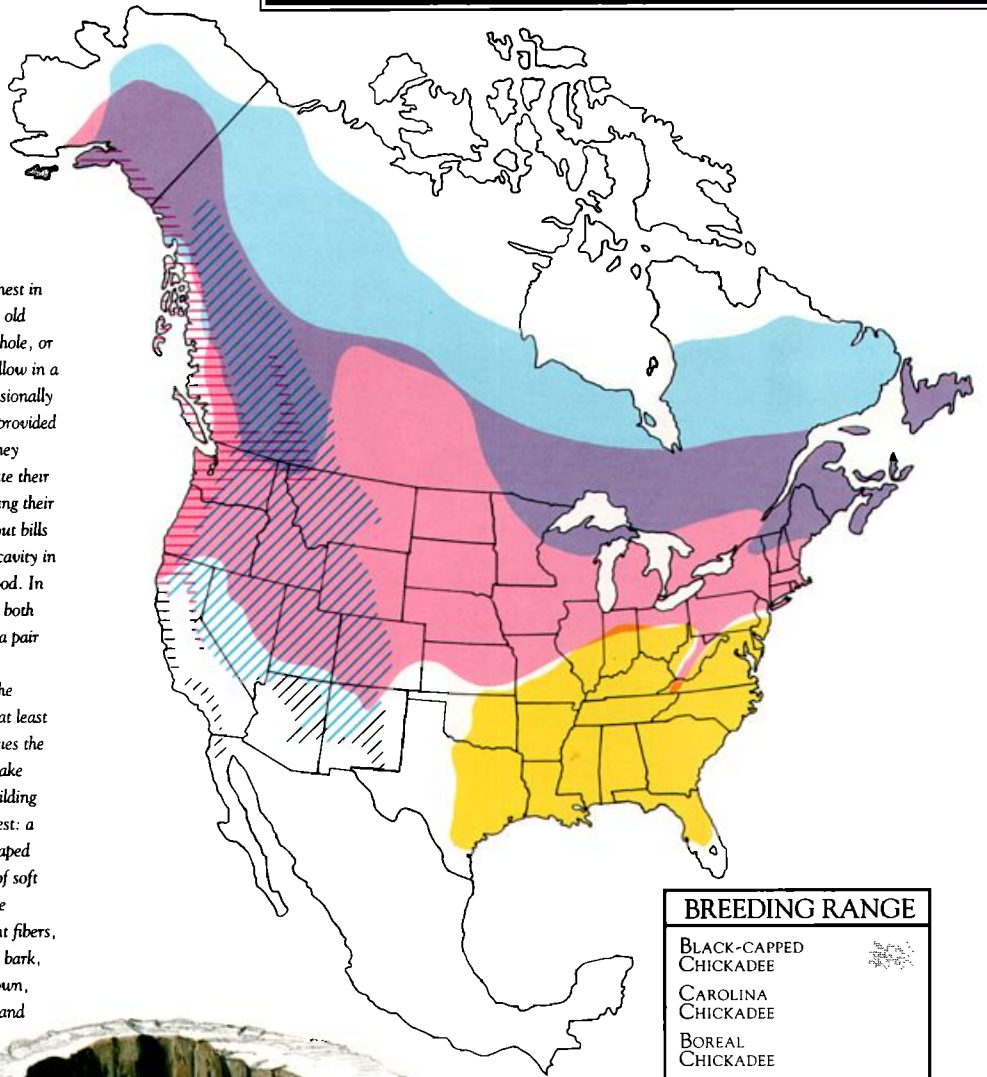
CHICKADEES

A MATED PAIR OF CHICKADEES STAYS TOGETHER all year and in winter they are likely to join others of their kind to form a small flock. These winter bands of chickadees—from three or four individuals up to a dozen or more—provide “safety in numbers.” With more pairs of eyes watching, the birds spot approaching hawks, lurking weasels, or other predators more quickly.

Chickadees clamber about the branches and outer twigs of trees in search of insects, the staple of their diet, even hanging upside down to reach the least-likely spots. In winter they hunt for insect eggs or pupa cases or for dormant insects in crevices in the bark, as well as seeds or berries on occasion. They also come to suburban birdfeeders for sunflower seeds and suet. A chickadee dependent upon insects in winter has to find something to eat every few seconds or it risks starvation.



Chickadees nest in cavities—an old woodpecker hole, or a natural hollow in a tree, or occasionally a birdhouse provided for them. They often excavate their own site, using their small but stout bills to dig out a cavity in soft dead wood. In many cases, both members of a pair will work at excavating the hollow, but at least in some species the female will take charge of building the actual nest: a thick cup-shaped foundation of soft materials like mosses, plant fibers, strips of fine bark, milkweed down, animal fur, and feathers.



BREEDING RANGE	
BLACK-CAPPED CHICKADEE	
CAROLINA CHICKADEE	
BOREAL CHICKADEE	
MOUNTAIN CHICKADEE	
CHESTNUT-BACKED CHICKADEE	



Most kinds of chickadees lay about half a dozen eggs per clutch, sometimes as many as ten or twelve. The eggs are white, usually with fine reddish-brown markings.

Care to see a chickadee up close? Stand quietly in the forest and make a loud, pebbly noise, repeating it once per second for 10 or 15 seconds. Pause and listen then repeat again. Any chickadee (or nuthatch, for that matter) within earshot will come to investigate. If none remain motionless they may come to within a few feet.

CHICKADEE

There's a hush on the frosty furrow
where the frozen loam lifts black,
And a film on the brown hare's burrow
unmarred by a seeking track,
And over the leafless uplands comes
echoing clear to me
A voice from the edge of winter:
"Chickadee dee dee! Chickadee!"

Martha Haskell Clark

SPECIES	SIZE/APPEARANCE	HABITAT	NEST	VOICE	FOOD
BLACK-CAPPED CHICKADEE <i>Parus atricapillus</i> Common over much of the northern part of the continent. Shows little fear of humans and can even be taught to take food from the hand.	Length: 5.25" Very small, active; black cap and throat, white cheeks, gray back, faint buff wash on sides.	Deciduous or mixed forest, riverside groves, residential areas and parks with large trees.	Most chickadees will nest in a cavity in a dead limb, or in an abandoned woodpecker hole, lining it with feathers, moss, plant down, and animal fur. A mated pair, however, may excavate their own nest cavity.	Whistled song, <i>fee-bee</i> or <i>fee-bee-bee</i> , is easily imitated; chattering notes including the trademark <i>chick-a-dee</i> ; various fussing calls and high thin notes.	Chickadee diets consist of insects and insect eggs, seeds and small fruit. Will come readily to birdfeeders for suet or sunflower seeds.
CAROLINA CHICKADEE <i>Parus carolinensis</i> Almost every woodlot in the eastern half of the United States has either black-capped or carolina chickadees—one or the other, but not both.	Length: 5" Otherwise, almost identical to black-capped chickadee.	Open deciduous woodlands, swamps, well-wooded residential areas.		Four-noted <i>tsee-dee-see-bee</i> , with the first and third notes high and squeaky. Other callnotes like those of black-cap, but a little higher and faster.	
BOREAL CHICKADEE <i>Parus hudsonicus</i> "Boreal" means "of the north;" the northern wilderness of Canada and Alaska is the stronghold of the boreal chickadee.	Length: 5.25" Very small bird with black throat, dull brown cap, small white cheek patch, brownish-gray back, brown wash on sides.	Northern coniferous forest, especially of spruce, fir, or hemlock; sometimes feeding in nearby stands of birch or willow.		Standard <i>chick-a-dee</i> callnote has a nasal or wheezing sound, as if the bird had caught a permanent cold; also gives a few soft warbled notes.	
MOUNTAIN CHICKADEE <i>Parus gambeli</i> Over much of the arid country of the West, big trees are found mostly in the mountains. That is where the mountain chickadee lives.	Length: 5.25" Small and active; black cap and throat, white eyebrow, white cheeks, gray back, gray wash on sides.	Mountain conifers, or nearby oaks; lowland riverside trees such as cottonwoods, especially in winter.		Song consists of three or four descending whistled notes; <i>chick-a-dee</i> has more syllables than most chickadees, and is delivered in a hoarse tone.	
CHESTNUT-BACKED CHICKADEE <i>Parus rufescens</i> In the dark shadows of the damp forests in the Pacific Northwest, the dark color pattern of the chestnut-backed chickadee fits in perfectly.	Length: 4.75" Very small and active; dark brown cap, black throat, white cheeks, chestnut back, chestnut or grayish sides.	Usually in humid coniferous or mixed forest; also in residential areas in oaks and eucalyptus.		Standard <i>chick-a-dee</i> callnote with a more husky tone than those of its relatives; also a dry <i>check check</i> and various high thin notes.	

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