1. General
On March 3, 2007, the Maryland/District of Columbia Records Committee (MD/DCRC) held its annual Skins Workshop at the Division of Birds, National Museum of Natural History, Smithsonian Institution, Washington, DC. Our host was Roger Clapp of the US Geological Survey – Biological Resources/Patuxent Wildlife Research Center. Roger is resident at the museum. The committee wishes to thank Roger for the time he dedicated to our workshop.

Taxa reviewed during this workshop included the following:

- Black-bellied Whistling-Duck (focus on the hallux)
- Cape Verde Shearwater and “Scopoli’s” (Cory’s) Shearwater
- Southern Lapwing (focus on subspecies)
- Tropical Kingbird vs. Couch’s Kingbird
- “Snowy-bellied Martin” complex (Caribbean/Cuban/Sinaloa Martins)
- Hoary Redpoll vs. Common Redpoll
- Bridled Tern vs. Sooty Tern (focus on underwings)

2. Attendees
Committee members in attendance were: Paul O’Brien (Chair), Phil Davis (Secretary), Tyler Bell, Paul DeAnna, John Hubbell, George Jett, Ray Kiddy, Paul Pisano, Sherman Suter, Marcia Watson, and Leo Weigant.

3. Skins Studies
We began the workshop at 10:15 am, following our security check-in. We assembled in the Bird Division specimen case area on the 6th floor. Our objective was to study specimen skins related to sighting reports that are currently in review or are expected to be reviewed over the next year or skins that relate to potential identification problems for Maryland and DC. The findings from the skins we examined are summarized below.
3.1 Black-bellied Whistling-Duck (*Dendrocygna autumnalis*)

Account by Paul O’Brien

3.1.1 Background

When a Black-bellied Whistling-Duck (BBWD) visited a pond at the Rio complex in Gaithersburg, Montgomery County, MD in June 2006 (MD/2006-042), the bird was noted to have little more than a nub of a nail on the hind toe (hallux) which raised the question of a possible escape, since aviculturalists are known to frequently clip the halluces of captive waterfowl. However, a photo on Greg Lasley’s web site …

[http://www.greglasley.net/Black-belWD.html](http://www.greglasley.net/Black-belWD.html)

… showed a pair of BBWDs on a nest box in Texas, one of which had long nails, the other nubs. It was postulated that perhaps this represented a sexual dimorphism. To research this question the committee examined 16 specimens, both male and female, in the Smithsonian collection.

3.1.2 Findings

All specimens were found to have obvious, long nails, approximately 10mm in length, on the hallux (see figure 3.1.2-1). Hence, the sexual dimorphism hypothesis fails and the reason for the very short nails on the Rio bird and in the Lasley photo remains an open question.

![Figure 3.1.2-1. Black-bellied Whistling-Duck feet showing the nail on one hallux of the male (top) and the female (bottom). Photo by George M. Jett.](image)
3.2 Cape Verde Shearwater (*Calonectris edwardsii*) and “Scopoli’s” (Cory’s) Shearwater (*C. diomedea diomedea*)

Account by Sherman Suter

3.2.1 Background
A photograph was taken of several Cory’s Shearwaters in Maryland waters on an August 2004 pelagic trip. A former Maryland/DC birder, Ottavio Janni who currently lives in Italy, noted the images and suspected that one of the birds was of the nominate, “Scopoli’s,” subspecies. Janni asked a fellow European birder, Ricard Gutiérrez, who was very familiar with this shearwater complex, to look at the images and he agreed with Janni's assessment. The MD/DCRC was advised and we have placed that image [MD/2005-048] into a reviewable category since it is a “form or subspecies” unusual for the region. We took the opportunity to study skins of the Scopoli’s Shearwater and compare them to the expected form, *borealis*, generally seen on Maryland pelagic trips.

3.2.2 Findings
Current literature describes three taxa in the Cory’s Shearwater complex:

(a) The nominate subspecies, Scopoli’s Shearwater, *C. d. diomedea*: breeds in the Mediterranean; taxon originally described by Scopoli; specimen records exist from North American waters;

(b) Cory’s Shearwater, *C. d. borealis*: breeds on islands in eastern Atlantic; the most widespread subspecies, and the one that is most abundant off North America; and

(c) Cape Verde Shearwater, *C. d. edwardsii*, recently split from Cory’s: breeds on Cape Verde Islands off Africa; photographed off North Carolina.

**Identification.** According to Brian Sullivan in Jonathan Alderfer’s, *Complete Birds of North America* (National Geographic Society, Washington DC, 2005): compared to Cory’s, Scopoli’s "shows more extensive white on the underwing: the white extends out onto the primaries. It also has somewhat paler uppersparts and a less heavy, duller yellow bill." The Cape Verde form "is very different from the others and is relatively easy to identify. It is smaller and darker overall, with more slender wings, a longer tail, a darker cap, an often paler mantle that contrasts with its darker wings, and a slim, mostly grayish or fleshy gray bill." Thus, it shows some similarity to Greater Shearwater, but lacks "bright white collar and dark marking on the underwings and belly."

**Overall Comparisons.** Figure 3.2.2-1 shows a side comparison of Cory’s and Cape Verde Shearwater. Figure 3.2.2-2 shows a dorsal comparison of Cory’s, Scopoli’s, and Cape Verde Shearwater.

**Underwings.** We examined specimens and separate wings of both Cory's and Scopoli's; for Cory's: the white of underwing extends only onto basal part of primaries; for Scopoli's: the white clearly extends much farther out onto the primaries. Figures 3.2.2-3 through -5, respectively, show the underwings of Cory’s, Scopoli’s, and Cape Verde Shearwater.

**Summary.** Differences should be detectable with good looks, but care should be taken to not be misled by lighting producing silvery underwings (as for the Sooty/Short-tailed Shearwater...
distinction). So the ideal situation for claims of Scopoli’s off North America would be in direct comparison with Cory’s.

Photos from North Carolina suggest that *edwardsii* should stand out from the other two subspecies.

Suter checked the Slater Museum of Natural History (University of Puget Sound) web site for spread wing specimens; however, they do not have any Cory’s in their collection.

![Figure 3.2.2-1. A side view comparison of Cory’s and Cape Verde Shearwater. Image by George M. Jett.](image)

![Figure 3.2.2-2. A ventral comparison of (L to R) Cory’s, Scopoli’s, and Cape Verde Shearwater. Image by George M. Jett.](image)
Figure 3.2.2-3. Cory’s Shearwater underwing. Image by George M. Jett.

Figure 3.2.2-4. Scopoli’s Shearwater underwing. Image by George M. Jett.

Figure 3.2.2-5. Cape Verde Shearwater underwing. Image by George M. Jett.
3.3 Southern Lapwing (*Vanellus chilensis*)

Account by Leo Weigant

3.3.1 Background

The following summary is from the June through July 2007 *North American Birds* regional report for the Middle Atlantic region (Day 2007; NAB 60(4):514):

A Southern Lapwing (*Vanellus chilensis*) photographed by Hoffman at a barren area in salt marsh sw. of the confluence of Turville Cr. with Herring Cr., just n. of West Ocean City, Worcester, MD 17 Jun, ranks among the most shocking Regional surprises. It could not be relocated four hours later nor by a team of chasers 22 Jun. Alvaro Jaramillo identified it as being of the subspecies *cayennensis*, based on its brownish (not grayish) face, slender shape and long legs, long black crest, dull bill color, and (most importantly) the lack of a dark line connecting the bill and black breast patch.

Southern Lapwing may comprise two species: the southerly *chilensis* group occurs from Chile and central Argentina s. to Tierra del Fuego, while the *cayennensis* group (including *cayennensis* and the more southerly *lampronotus*) ranges throughout much of the remainder of South America and n. through Panama. Northern *cayennensis* has been expanding northward throughout the last century (due to forest clearing), and recent advances have been well reported in the pages of this journal: it has recently bred in Costa Rica and Aruba and has strayed n. to the Yucatan Peninsula. It is to be expected in the Gulf of Mexico regions, and indeed a Southern Lapwing of subspecies *cayennensis* was seen at St. Mark's N.W.R., Florida in May-Jun 2006. However, 2 birds in Florida in 2003 involved banded *lampronotus* (escapees), and the five Florida records between 1959 and 1962 have likewise been considered escapees. Stevenson and Anderson (1994, *Birdlife of Florida*) discussed those records and opined that "since this resident species is not prone to wandering great distances, it seems unlikely that any of these birds were natural vagrants."

It now seems that the species may wander more than previously thought. The Maryland bird was of the expected subspecies, wary, unbanded, and ties in well with the St. Mark's record. While the subspecies of most Florida records has not been reported, the Jun-Jul peak (five of seven potentially wild records) may correspond with movements in South America. Of about 26 sightings in Suriname, eight have been in Jun and four in Jul, and almost all from the n. coastal area. This may suggest a northward movement during this period that could lead to overshooting much as in Fork-tailed Flycatcher, which predominates on the Gulf Coast and eastern seaboard and may fly directly (or nearly so) from South America. Some have mentioned that Maryland's record may tie in to Hurricane Alberto, but such a connection at this point seems tenuous, since the storm's point of origin was not an area of regular occurrence for the species. However, the Maryland record thus should not be dismissed as an escapee; a more thorough review of Southern Lapwing movements, especially seasonal movements in South and Central America, is very much needed and might shed more light on its potential vagrancy-even as far n. as the Mid-Atlantic.

3.3.2 Findings

Supporting documentation of this sighting and a similar one six days before at St Marks NWR, in the Florida panhandle -- in the intervening period, Hurricane Alberto had blown through the US southeast on a track which would have moved directly from the Florida panhandle toward the Delmarva Peninsula -- suggested this bird might be a vagrant from northern South America.
The committee’s primary focus of concern was on verifying whether the sighting was of the *cayennensis* subspecies of Southern Lapwing whose range would be the closest to North America and the usual storm tracks in the Caribbean.

The committee’s consensus determination was reached primarily through comparisons of the photos taken of the Maryland sighting by Hoffman, the illustrations and subspecies identification descriptions in Shorebirds: An Identification Guide, (Peter Hayman, et al. 1986), and museum study skins of the various subspecies: (*chilensis/fretensis* from Chile/Argentina, *lampronotus* from Brazil/N. Argentina south of the Amazon, and *cayennensis* from South American north of the Amazon).

The *cayennensis* confirmation was based primarily on the head and upper body markings in all sources. The clear white forehead line, the white cheek patches, the lack of black striping all the way down the bird’s belly, and the darker cinnamon-brown head color was visible in the sighting photo, the study skins (Figure 3.3.2-1), and the Shorebirds Guide (Hayman, et al. 1986) illustrations.

A question was raised about whether the sample of skins available to us supported the identification. Absent a larger collection than the Smithsonian’s (including more of the southern *chilensis* skins), our identification seems as reasonable an assumption as can be reached.

![Figure 3.3.2-1. Southern Lapwing subspecies *V. lampronotus* (top) and *cayennensis* (bottom) Image by George M. Jett.](image-url)
3.4 Tropical Kingbird (*Tyrannus melancholicus*) vs. Couch’s Kingbird (*T. couchii*)

Account by Paul DeAnna

3.4.1 Background
The Committee has under review the December 2006 – January 2007 report of Tropical Kingbird from Somerset County on Maryland’s Eastern Shore [MD/2006-284] and recognized the need to distinguish the Tropical Kingbird from the similar species, Couch’s Kingbird.

3.4.2 Findings
The Committee examined numerous specimens of both Tropical Kingbird (*Tyrannus melancholicus*) and Couch’s Kingbird (*Tyrannus couchii*) in the USNM collection. According to the *Audubon Society Master Guide to Birding, Vol 2* (Farrand 1983), the two species are “almost identical,” but the Couch’s “has a slightly shorter bill, brighter greenish back, and paler brown wings and tail. Couch’s tends to be slightly larger than the Tropical and have a shallower notch at the tail tip” (p. 283-284; accounts by K. Kaufman). We reviewed these distinctions with reference to the study skins, as follows:

**Bill** (See Figure 3.4.2-1)
The Tropical specimens appeared to have a slightly longer bill; we also noted the bill had a straighter culmen and a droop at the tip. The bill of a typical individual was measured as follows (in millimeters): length, 20.46; width 13.34 (at base); depth (or thickness), 6.89 (at base).

![Figure 3.4.2-1. Comparison of bill shape and size. The Tropical is at top in this view. Image by George M. Jett.](image-url)
In the hand, the Couch’s bill was seen as noticeably thicker at the base, with a shorter, curved culmen. Corresponding measurements were as follows: length, 20.15; width, 13.83 (at base); depth or thickness, 8.72 (at base).

The Committee concluded that, given close views, the distinction in thickness and in general shape, i.e., straighter (melancholicus) vs. more curved (couchii), might be distinguishable in the field by an experienced observer; however, it was noted that the absolute differences were small, as the measurements above indicate, with the possible exception of thickness, which represents about a 20 percent difference.

**Back** (See Figure 3.4.2-2)
We were unable to verify with the specimens in hand that the Couch’s has a more greenish back. Variation appeared just as great within the same species as between the two.

**Color of Wings and Tail** (See Figure 3.4.2-2)
Comparing closely the color of the wings and tail of the two species side by side, no striking difference was obvious; however, it was possible to discern greater contrast between the wings and the back on the Tropical specimens. The Couch’s, on the other hand, had browner wings and tail, slightly paler in tone and showing less contrast with the back. While coloration differences alone would probably not be useful when viewing a single bird under field conditions, the committee agreed that observed contrast between wings and back could be helpful in distinguishing the Tropical.

![Figure 3.4.2-2](image-url). Dorsal view showing greater contrast between wings and back of the Tropical Kingbird (top) than the Couch’s Kingbird (bottom). Image by George M. Jett.
Size (See Figure 3.4.2-3)
Size being notoriously difficult to judge in the field, the committee decided that while the Couch’s appeared generally larger in a comparison of specimens in the hand, this aspect was probably moot as a field mark.

Figure 3.4.2-3. Couch’s Kingbird (top); Tropical Kingbird (bottom). Image by George M. Jett.

Tail Notch (See Figure 3.4.2-4)
When the specimens were closely compared, the notch in the tail tip was indeed shallower in the Couch’s, as expected. In the field, we felt this would be a difficult distinction to observe, however.
Conclusion
Possibly a combination of bill proportions—thicker with a shorter curved culmen in the Couch's vs. thinner with a straighter culmen in the Tropical—plus observed contrast between wings and back, which should only be noticeable in the Tropical, might be sufficient to visually distinguish the two species in the field, given adequate views. (Vocalization, however, is still the best characteristic for field separation.)
3.5 “Snowy-bellied Martin” Martin complex (Progne dominicensis/cryptoleuca/sinaloae)
Caribbean/Cuban/Sinaloa Martin complex

Account by Marcia Watson

3.5.1 Background
An unusual swallow was seen in October 2006 by a group of birders at Assateague Island, Worcester County, Maryland, and was tentatively identified as one of the “Snowy-bellied Martins” [MD/2006-265]. The “Snowy-bellied Martin” complex is a group of species with very similar appearance of adult males: Cuban Martin (Progne cryptoleuca), Caribbean Martin (P. dominicensis), and Sinaloa Martin (P. sinaloae).

3.5.2 Findings

NOTE: THESE FINDINGS HAVE BEEN TEMPORARILY REMOVED PENDING CORRECTION OF AN ERROR. [P. Davis 05 May 2009]
3.6 Hoary Redpoll (Carduelis hornemanni) vs. Common Redpoll (Carduelis flammea) and subspecies

Account by Phil Davis

3.6.1 Background
The winter of 1993-1994 was a Maryland redpoll invasion year. Common Redpolls are not a MD/DCRC “reviewable” species; however the committee did receive or glean 37 “reviewable” reports of Hoary Redpolls. Of special note was the sighting of a very large flock of mixed redpolls at the residence of Dave Czaplik in Germantown, Montgomery County, Maryland between 01 Nov 1993 and 14 Mar 1994. Czaplik (1995) documented his findings in Birding 27(6):446-457, which he agreed could be used for the basis of a review by the MD/DCRC. From his article and images, 17 individual putative Hoary Redpolls were isolated and are included in the total of 37 reports from the region for that winter. Also, included in the Czaplik collection are several putative “Greenland” Hoary Redpolls (C. h. hornemanni) and one putative “Greenland” Common Redpoll (C. f. rostrata), the latter being reviewable in Maryland as a “subspecies or form unusual to the region.” The MD/DCRC has not yet reviewed these reports. This workshop study session and follow-up report was intended to provide a summary of the current understanding of the taxonomy, characteristics, and distribution of these taxa and also provide a photographic specimen reference for the committee voting members.

3.6.2 Findings
The MD/DCRC had studied redpoll skins during previous workshops; however, no photographs were taken nor were any detailed study notes captured. This year’s species account author [Davis] decided that the time available at the workshop had not been sufficient to produce an accurate report; therefore he returned to the Smithsonian on 10 Mar 2007 to take additional notes and photographs, which are reflected in this account. Davis noted that the experience of trying to study redpoll skins was a bit frustrating since many of the skins (at least in the Smithsonian) were quite old (e.g., many from the 1800s) and were not in pristine condition which inhibited the study of key characteristics (e.g., head shape, fine streaking). Also, most specimens had museum tags tied together around both feet which made study of the important undertail coverts a bit problematic.

3.6.2.1 Published References. In preparation for these study sessions, Davis located and reviewed all available references that deal with redpoll identification. It was interesting to note that most journal articles on this topic were prepared as a result of a redpoll invasion, whether from North America or Europe, as these articles included either close-up photographs of wild birds or photographs of birds-in-the-hand of the various taxa. The following references have been obtained and added to the MD/DC reference library and are listed at the end of this account.

3.6.2.1.1 Identification References. A number of contemporary detailed published journal accounts deal with Common and Hoary Redpoll identification and include reference images or illustrations, including: Troy (1985); Lansdown, et al. (1991); Czaplik (1995); Pyle (1997); Knox and Lowther (2000a and 2000b); Riddington, et al. (2000); Votier, et al. (2000); Pennington and Maher (2005); and van den Berg, et al. (2007).

3.6.2.1.2 Field and Birding Guide References. Various contemporary North American and European field and birding guides present valuable plates and species accounts for separating the two species, including, Jonsson (1992); Clement, et al. (1993); Mlodinow and O’Brien
(1996); Harris, et al. (1996); Beadle and Henshaw (1996); Beaman and Madge (1998); Zimmer (2000); Sibley (2000); Hayman and Hume (2001); Alderfer (2006); Beadle and Rising (2006); and Dunne (2006).

3.6.2.2 Systematics. A basic review of the current status of the taxonomy of Common Redpoll and Hoary Redpolls is in order. The current nomenclature (from various sources) of the taxa of interest is summarized in Table 3.6.2.2-1. Note that an older name for the redpoll genus was Acanthis, which appears in some older literature.

<table>
<thead>
<tr>
<th>Species</th>
<th>Common Names</th>
<th>Subspecies / Taxa</th>
<th>Typical Taxa Common Names</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Carduelis flammea</em></td>
<td>Common Redpoll [NA]</td>
<td><em>C. f. flammea</em></td>
<td>Southern Common Redpoll</td>
</tr>
<tr>
<td></td>
<td>Mealy Redpoll [UK]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Redpoll [older - UK]</td>
<td><em>C. f. rostrata</em></td>
<td>Greenland Common Redpoll</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>C. f. islandica</em></td>
<td>Greater Redpoll</td>
</tr>
<tr>
<td><em>Carduelis hornemanni</em></td>
<td>Hoary Redpoll [NA]</td>
<td><em>C. h. hornemanni</em></td>
<td>Greenlander Hoary Redpoll [NA]</td>
</tr>
<tr>
<td></td>
<td>Arctic Redpoll [UK]</td>
<td></td>
<td>Hornemann's Arctic Redpoll [UK]</td>
</tr>
<tr>
<td><em>Carduelis cabaret</em></td>
<td>Lesser Redpoll</td>
<td><em>C. h. exilipes</em></td>
<td>Southern Hoary Redpoll [NA]</td>
</tr>
<tr>
<td></td>
<td>(none)</td>
<td></td>
<td>Coues's Hoary Redpoll [UK]</td>
</tr>
</tbody>
</table>

Table 3.6.2.2-1. Redpoll taxonomy nomenclature summary.

**Species Relationships.** The following information was primarily extracted from the Birds of North America species accounts for Common and Hoary Redpolls (Knox and Lowther. 2000a and 2000b):

**A Single Species?** Redpoll taxonomy still remains complex and imperfectly understood. The Hoary Redpoll is closely related to Common Redpoll and is sometimes treated as conspecific under latter name (e.g., Salomonsen 1928, 1951; Williamson 1961; Troy 1985).

**Up to Six Species?** Historically, redpolls have been divided into one–six species. Recent work has investigated redpoll taxonomy. Are there one, two, ... or six species of redpolls (Troy 1985, Knox 1988, Herremans 1990)?

**Two Species.** Relationships of the largely sympatric *C. f. flammea* and *C. h. exilipes* have been most studied (e.g., Molau 1985; Troy 1985; Knox 1988; Seutin et al. 1992, 1993, 1995) and usually the North American complex is treated as two species: Common Redpoll ( *C. flammea*) and Hoary Redpoll ( *C. hornemanni*; see Howell et al. 1968). *C. f. flammea* arrives on breeding grounds later than *C. h. exilipes* and leaves earlier in autumn. The two forms sometimes nest in different habitats but may forage in same areas. Some authors have reported differences in diets. The two taxa differ in calls, physiology, behavior (e.g., migration), size, and appearance.

Gibson and Kessel (1997) stated:

“*C. h. exilipes*” (Coues, 1862) {Fort Simpson, Northwest Territories}. Smaller and not so pale as nominate *hornemanni*; the Alaska-breeding subspecies. In recent studies in Alaska, Troy (1980, 1985) concluded that *exilipes* comprises the lighter color variations within individual populations of *C. flammea* and, stating that *exilipes* and *flammea* represent the ends of a continuum of plumage and skeletal variability, recommended that all redpolls be considered a single species.
Knox (1988a) examined museum specimens from throughout the range of the birds and concluded instead that apparent intermediate specimens are "an artifact of overnarrow definition of specific characters" (ibid.:22), not hybrids, and represent variability within two species. Seutin et al. (1992, 1993) concluded from their morphometric and plumage-variability studies in Manitoba that redpolls there represent the sympatric occurrence of two genetically determined phenotypic forms, i.e., two species. We continue to maintain two species of redpolls and to maintain exilipes in C. hornemanni.

AOU (1998) commented:

[Common Redpoll:] Notes.-Known in Old World literature as the Redpoll. *Carduelis flammea* and *C. hornemanni* are often placed in the genus *Acanthis* (e.g., Howell et al. in Paynter 1968); they appear to constitute a superspecies (Mayr and Short 1970).

[Hoary Redpoll:] Notes.-Also known as Arctic Redpoll. The two groups may represent separate species, *C. exilipes* (Coues, 1862) [Hoary Redpoll] and *C. hornemanni* [Hornemann's Redpoll]. Species limits in redpolls are complex and controversial. Some authors consider all forms, including both *C. flammea* and *C. exilipes*, to be members of a single species (e.g., Salomonsen 1951, Harris et al. 1965, Troy 1985), whereas others recognize four species *C. flammea, C. exilipes, C. hornemanni*, and *C. rostrata* (Coues, 1862) [Greater Redpoll] (e.g., Todd 1963, Herremans 1990). Molau (1985) found no evidence for hybridization between *C. flammea* and *C. h. exilipes* in Sweden; Knox (1988) refuted evidence for hybridization between *C. flammea* and *C. h. exilipes*, or between *C. f. rostrata* and *C. h. hornemanni*. Thus, at least two species are probably involved, and that treatment is followed here. Differences in vocalizations between *C. flammea* and *C. hornemanni* in Eurasia also suggest species rank (Knox 1988, Herremans 1989, references therein). Nevertheless, the possibility that the two species may represent morphotypes of the same species cannot yet be completely eliminated (Seutin et al. 1992).

Differences between Hoary and Common redpolls in time of arrival and departure at breeding grounds, relative abundance from year to year, habitats, diets, calls, physiology, behavior, size, and appearance suggest best treated as separate species (Molau 1985; Knox 1988; Herremans 1990; Seutin et al. 1992, 1993). Abundance of the two forms in any one breeding place varies independently from year to year. In this account, we follow the conservative approach to redpoll taxonomy that identifies two species: Common Redpoll (*Carduelis flammea*) and Hoary Redpoll (*Carduelis hornemanni*). A third species, the Lesser Redpoll is strictly a European taxon.

In summary:

**Common Redpoll** (*Carduelis flammea*). For our purposes, three subspecies are described, two occurring in North America and one found in Iceland.

**Hoary Redpoll** (*Carduelis hornemanni*). Two subspecies, both occurring in North America.

**Lesser Redpoll** (*Carduelis cabaret*). Lifjeld and Bjerke (1996) treated *C. (f.) cabaret* as separate species, Lesser Redpoll, which is currently recognized by the BOU. However, Ottvall et al. (2002) states that there is no genetic differentiation between the Lesser and Common Redpoll. The Lesser Redpoll range is restricted entirely to Western Europe with a high proportion of the population in Britain, and thus should not be an issue for consideration by the MD/DCRC [PCD]. In this account, we will follow the BOU and treat this taxon as a separate species.
3.6.2.3 Characteristics, Geographic Variation, and Subspecies

3.6.2.3.1 Common Redpoll Subspecies and Forms. Three subspecies are described (not including the European taxa “Lesser Redpoll”, see below); two occur in North America, the other is found in Iceland. These three subspecies and two other taxa which are not currently recognized as subspecies are also summarized, below. For discussion on origin, characters, and affinities of various forms of redpolls, also see Salomonsen 1928, 1951, Knox 1988, Herremans 1990, and Cramp and Perrins 1994. The information below has been compiled primarily from the AOU Checklist (1998) and the two Birds of North America accounts (Knox and Lowther, 2000a and 2000b):

[Southern] Common Redpoll. C. f. flamma (Linnaeus 1758): Most widespread race; largely circumpolar range; in n. North America and in Eurasia from sw. Norway, Sweden, Finland, n. Russia across Siberia to Chukchi Peninsula, south to Sakhalin, Kamchatka, and Commander Is. Winters within southern part of breeding range and south to Black Sea in west and to e. China in east. In Europe, will breed in numbers to south of main range following irruption if abundant food available (Götmark 1982). No evidence of geographic variation within this range, although no recent detailed study (Knox 1988).

Greenland Common Redpoll. C. f. rostrata (Coues): Substantially larger, darker, and more richly colored than C. f. flamma. Almost 10% larger and 50% heavier; looks longer-tailed and broader-necked; bill noticeably thick, and with bulging, not straight, culmen (overall size and bill shape vaguely suggests House Finch [Carpodacus mexicanus] to North American observer; [fide L. Bevier]; face and nape darker and richer brown; crown patch is consequently slightly less conspicuous; upperparts streaking heavier and darker and feather edges richer and browner, giving less contrast between dark feather centers and slightly paler feather edges; black bib darker and more extensive; underparts ground color darker, and streaking heavier and more extensive on breast and flanks; undertail coverts heavily streaked. (See Cramp and Perrins 1994, Beadle and Henshaw 1996 for further details.) Breeds e. and central Baffin I., Nunavut; sw. and se. Greenland; wintering in n. Canada (Manitoba and Ontario to Newfoundland), s. Greenland, Iceland, n. British Isles, occasionally reaching continental Europe. Said to have bred in Labrador in 1903 (Todd 1963).

Iceland Common Redpoll. C. f. islandica (Hantzch): In Iceland, populations include two forms; specific identities problematic: dark form common and very like C. f. rostrata in appearance; pale form rarer, rather like more widespread of two subspecies of Hoary Redpoll, C. homemanni exilipes. The name C. f. islandica Hantzch recently restricted to dark birds (Herremans 1990). Affinities of pale birds unclear (Knox 1988, Herremans 1990). C. f. islandica breeds and winters mainly in Iceland.

[Labrador Redpoll]. C. f. fuscescens (Coues): Birds claimed intermediate between C. f. flamma and C. f. rostrata, from breeding grounds in Labrador, given name C. f. fuscescens [Labrador Redpoll], and may have been confused with possible “hybrids” between these two forms. Recent studies (e.g., Knox 1988) failed to support continued use of this name or existence of intergradation between these taxa.

[Holboell’s Redpoll]. C. f. holboellii (Brehm): Throughout northern part of Holarctic breeding range of C. f. flamma, individuals with long bills called C. f. holboellii. Such birds make up about six percent of population in n. Sweden and Finland (Knox 1988) and more in e. Siberia (Grote 1943). Although these individuals often darker plumaged, there seem to be no other

### 3.6.2.3.2 Hoary Redpoll Subspecies and Forms

Two subspecies are recognized; these two and one possibly cryptic taxon are summarized, below.

**[Greenland] Hoary Redpoll and [Southern] Hoary Redpoll.** The high-arctic *C. h. hornemanni* (Holboell 1843) of n. Greenland and neighboring Canada is larger and generally paler and brighter than low-arctic *C. h. exilipes* (Coues 1862) of more extensive circumpolar distribution. *C. h. hornemanni* largest of all redpolls: about 10% larger than most *exilipes*, and slightly larger than [the Greenland Common Redpoll] *C. f. rostrata*. Compared to *C. h. exilipes*, adult male *C. h. hornemanni* sometimes appears longer-tailed and thicker-necked. Bill thicker and longer, but feathering at base of bill dense and size not always apparent; dense feathering probably contributes to steeper forehead; head and neck generally more massive and bird often “front-heavy.” Tibia heavily feathered but also on many *C. h. exilipes*. Adult male *C. h. hornemanni* whiter-faced, with brighter supercilium and sides of head; upperparts with very broad white feather edges and dark centers, often making feathers appear striped black and white; white area on rump larger; breast pale frosty or salmon pink; underparts whiter and less streaked; edges to wing- and tail-feathers (including wing-bars) broader and paler. Adult female like male, but almost or completely lacking pink on face, breast, and rump, and face and breast in particular more buff, and flanks usually more streaked. First-year individuals similarly duller and more streaked. (See Czaplak 1995 for further details.)

**Icelandic Forms.** Pale redpolls in Iceland, rather like *C. h. exilipes* (Hantsch) in appearance, unnamed and of unknown affinities (Knox 1988, Herremans 1990).

### 3.6.2.3.3 Lesser Redpoll Status

*C. cabaret* (Müller): Very small, dark, rather like *C. f. rostrata* in coloration. British Isles to Denmark and s. Norway, south to Alps, east to Carpathians. Winters within breeding range (except northernmost parts) and south to Mediterranean.

### 3.6.2.4 Redpoll Distribution

A basic review of the status of the distribution of Common Redpoll and Hoary Redpoll is in order. The following information is primarily from the Seventh Edition of the AOU Checklist (1998) and the from the Birds of North America species accounts for Common and Hoary Redpolls (Knox and Lowther. 2000a and 2000b).

#### 3.6.2.4.1 Common Redpoll Distribution

**Breeding Range.** Breeds in North America from western and northern Alaska, northern Yukon, northern Mackenzie, southern Victoria Island, northern Keewatin, northern Quebec, Baffin Island, and northern Labrador south to the eastern Aleutians (Unalaska), south-coastal and southeastern Alaska, northwestern British Columbia, central Alberta, northern (casually southern) Saskatchewan, northern Manitoba, northern Ontario, central and southeastern Quebec, and Newfoundland; and in the Palearctic from Greenland, Iceland, northern Scandinavia, northern Russia, and northern Siberia south to the British Isles, central Europe (Alps), central Russia, southern Siberia, Amurland, Sakhalin, and Kamchatka.
Wintering Range. Winters in North America from central Alaska, southern Mackenzie, northern Saskatchewan, northern Manitoba, central Ontario, southern Quebec, central Labrador, and Newfoundland south to the northern United States, irregularly or casually to western Oregon, northern California, northern Nevada, northern Utah, central Colorado, Kansas, northern Oklahoma, Arkansas, northern Alabama, and South Carolina; and in the Old World from the southern part of the breeding range south to southern Europe, the northern Mediterranean region, Balkans, Turkestan, Mongolia, eastern China, and Japan.

Migration. Migrates regularly through the Aleutian Islands.

Casual/Accidental: Casual on Bermuda. Accidental in north-central Texas; sight reports for the Hawaiian Islands (Midway, Kure).

Historical Changes. Limits to breeding and wintering ranges vary from year to year with food availability, but no significant long-term changes known in North America.

3.6.2.4.1.2. Greenland Common Redpoll Distribution

Breeding Range. *C. f. rostrata*: Sw. and se. Greenland, wintering in Greenland, Iceland, and less regularly south to British Isles. Breeds in e. and central Baffin I., Nunavut (Clyde Inlet to Cumberland Peninsula, perhaps other areas), and n. Labrador (Nachuak).

Wintering Range. *C. f. rostrata*: Winters in Manitoba, n. Quebec, Labrador, less frequently from Ontario to Newfoundland or farther south into New England, rarely south to Colorado, Ohio, Pennsylvania.

Historical Changes. *C. f. rostrata* now breeds farther north in Greenland than earlier in twentieth century (Salomonsen 1951, Waterston and Waterston 1970).

3.6.2.4.1.3. Iceland Common Redpoll Distribution. *C. f. islandica*: Breeds in Iceland, wintering mainly within breeding range.

3.6.2.4.2 Hoary Redpoll Distribution

3.6.2.4.2.1. Southern Hoary Redpoll [*exilipes* group] Distribution

Breeding Range: Breeds [*exilipes* group] in North America in western and northern Alaska (south to Hooper Bay), northern Yukon, northwestern British Columbia, northern and east central Mackenzie, southern Victoria Island, Keewatin, northeastern Manitoba, Southampton Island, northern Quebec, and northern Labrador, and in Eurasia from northern Scandinavia east across northern Russia to northern and eastern Siberia;

Wintering Range: Winters [*exilipes* group] in North America in the breeding range (except extreme northern areas) and south, irregularly, to southern Canada (British Columbia eastward), Montana, Wyoming, South Dakota, Iowa, Wisconsin, northern Illinois, central Indiana, northern Ohio, New York, West Virginia, Maryland, and New England (sight reports from Washington, Oregon, Idaho, Nebraska, and Virginia need verification), and in the Palearctic irregularly to the British Isles, central Europe, central Asia, Japan, Kamchatka, and the Commander Islands;

3.6.2.4.2.2 [Greenland] Hoary Redpoll [NA] or “Hornemann’s Arctic Redpoll” [UK] Distribution

**Breeding Range:** *C. h. hornemanni*: Breeds: Arctic Canadian islands in Nunavut, including Ellesmere, Axel Heiberg, Devon, Bylot, and n. and e. Baffin. *C. h. hornemanni*: Breeds in e. (Scoresbysund region) and nw. Greenland, also s. Greenland.

**Wintering Range:** *C. h. hornemanni*: Winters partly within breeding range (except some of most northerly), but some move south to n. Quebec and Labrador, casual farther south and east to Keewatin region of Nunavut, northern Manitoba, northern Michigan, s. Ontario, s. Quebec, Massachusetts, the British Isles, and to Baltic countries in Europe.

3.6.2.4.3 Lesser Redpoll Distribution

**Breeding Range:** *C. (f.) cabaret*: Breeds in British Isles, countries bordering North Sea to s. Norway and central Europe

**Wintering Range:** winters in Britain (mainly south) and continental Europe south to Alps.

**Introduction.** Introduced and established in New Zealand and from there colonized nearby islands, including Lord Howe Island.

**Historical Changes:** In Europe, *C. (f.) cabaret* spread dramatically in last 200 years, in part due to increased afforestation (Ernst 1988, Gibbons et al. 1993), but British population now declining (Peach et al. 1998).

3.6.2.5 Sympatry and Hybridization. Extensive sympatry of *C. h. exilipes* [Hoary] with nominate *C. f. flammea* [Common] is much debated, but no direct evidence exists of interbreeding, despite claims otherwise (e.g., Salomonsen 1928, 1951, Williamson 1961, Harris et al. 1965, Troy 1985). In areas of sympatry, birds range in plumage from typical pale of Hoary Redpoll to typical dark of Common Redpoll, which has led to frequent unsubstantiated claims that intermediates are hybrids (e.g., Brooks 1968, Jehl and Smith 1970).

“Intermediate” phenotypes show part of normal range of plumage variation in *C. f. flammea* and *C. h. exilipes* (Molau 1985; Knox 1988; Herremans 1990; Seutin et al. 1992, 1993), although other, less likely, phenomena may account for plumage and biometric differences (Seutin et al. 1992, 1993). **Plumage of both Hoary and Common redpoll varies and dark Hoary (often young or female) can be mistaken for pale (often older male) Common Redpoll.** Suggestion that *C. h. exilipes* and nominate *C. h. hornemanni* are northern representatives of, and most closely related to, nominate *C. f. flammea* and *C. f. rostrata*, respectively (Molau 1985), and that these four taxa be treated as separate species (Herremans 1990), requires further support. See also Brooks 1917.
Less often debated, but equally interesting is the overlap of *C. h. hornemanni* and *C. f. rostrata*. These larger forms, *C. f. rostrata* and *C. h. hornemanni*, are sympatric in parts of Baffin I., Nunavut, and Greenland.

### 3.6.2.6 Skins Study - Photographs and Observations

This section contains the skins study photographs. Davis focused on combinations of taxa that will be represented in the MD/DCRC reports scheduled for review. The intent of the study was to photograph for comparative purposes specimens of the taxa of interest and comment on characteristics and field marks, as appropriate. As noted earlier, most of the published identification articles deal with redpoll invasions and rely on photographs of live birds at feeders or in the wild, or of birds-in-the-hand. This study merely compliments those more detailed and authoritative sources. Davis noted that virtually no labeled immatures of any redpoll taxa of interest were identified in the Smithsonian’s collection.

#### 3.6.2.6.1 Adult Male Hoary Redpoll (HORE) vs. Common Redpoll (CORE)

In this sequence of images, the intent was to compare a very bright HORE, a bright male CORE, and a dull male CORE. (Note: Virtually no adult male winter HORE specimens were identified to compare with CORE). The key objective was to note and compare the red coloration of the CORE vs. the pink coloration of the HORE.

In the following four images (Figures 3.6.2.6-1 to -4), these specimens are shown (L-R in all images):

1. USNM 468255; Southern HORE *exilipes* male, 24 May 1957, Yukon Territories, Canada.
2. USNM 464566; Southern CORE *flammea* male, 30 Jan 1956, Moscow, Idaho.
3. USNM 419436. Southern CORE *flammea* male, 29 Jan 1951, Moscow, Idaho.
Figure 3.6.2.6-1. Male Redpolls - Dorsal View. In this image, the bright HORE (L) exhibits some pink on the otherwise unstreaked rump. The HORE (L) also appears to be colder and grayer and shows more white back fringes than the two COREs on the right. The HORE also shows a bit more distinctive light collar between the nape and the back. Overall, the HORE is a larger bird, from tip to tail; and the tail of the CORE is significantly shorter than that of the HORE. Knox and Lowther (2000b) state, “… upperparts of Hoary generally grayer and less brown, with pale panel in center of mantle, but may have soft, warm, buff tones on mantle and cheeks.” Image by Phil Davis.
Figure 3.6.2.6-2. Male Redpolls – Side View. This image shows the classic shorter bill of the HORE (L) compared to the two COREs. The HORE is also obviously less streaked on the breast and belly and the flank and side streaking is less pronounced than the two COREs. Knox and Lowther (2000b) state, “…breast and flanks of Hoary purer white, with fewer, finer streaks; after pale feather tips have worn away by spring, revealing brighter colors, adult males show pink on breast rather than Common Redpoll’s red …” Image by Phil Davis.
Figure 3.6.2.6-3. Male Redpolls – Ventral View. This image shows the blotchy light pink on the breast of a bright HORE (L) compared to the more solid and redder coloration of a bright CORE (R); however, the lighter CORE in the middle is problematic. This image also shows that the undertail coverts are unstreaked on this male HORE; whereas the two COREs each show a distinct and broad single undertail covert center streak. Knox and Lowther (2000b) state, “...Best plumage characters include view of under tail-coverts from below . . .: Common Redpoll usually with broad streaks on under tail-coverts and rump normally with extensive streaks; adult male Hoary Redpolls have at most 1–3 hairline streaks on longest under tail-coverts …” Image by Phil Davis.
Figure 3.6.2.6-4. Male Redpolls - Bills. This is a close-up of the bills of the specimens shown in Figure 3.6.2.6-2. Head shape is problematic in prepared specimens. Knox and Lowther (2000b) state, “In comparison with Common Redpolls in fresh plumage: Hoary’s … bill is shorter and stubbier and surrounded by denser feathering at base so that it appears even smaller and “pushed in” …” Image by Phil Davis.

3.6.2.6.2 Four Female Forms: Greenland Hoary Redpoll vs. Southern Hoary Redpoll vs. Southern Common Redpoll vs. Greenland Common Redpoll

In the following series of images (Figures 3.6.2.6-5 to -8), the follow specimens are shown (L-R in all images):

1. USNM 93880; Greenland HORE *hornemanni*, ad female, 28 Mar 1883 Ft. Chimo, Quebec, Canada.
2. USNM 287356; Southern HORE *exilipes*, female, 18 Mar 1922, (AK?).
3. USNM 234366; Southern CORE *flammea*, female, 28 Dec 1882, Highland Falls, NY.
4. USNM 94052; Greenland CORE *rostrata*, female, 21 Nov 1882, White Fish Lake, Labrador.
Figure 3.6.2.6-5. **Females – Dorsal View.** In this image, the large size of the Greenland Hoary Redpoll (L) is compared to the Southern Hoary Redpoll (second from the L). Also, the larger size of the Greenland Common Redpoll (R) is compared to the Southern Common Redpoll (second from the R). The overall frostier coloration and unstreaked rump of the Greenland Hoary Redpoll are shown. The unstreaked rumps of the two HOREs (L) are obvious in contrast with the streaked rumps of the two COREs (R). Image by Phil Davis.
Figure 3.6.2.6-6. Females – Side View. This image shows, again, the larger sizes of the two Greenland forms (HORE – L, and CORE – R). The larger bills of the two Greenland forms (far L and far R), especially of the CORE, are also shown. Image by Phil Davis.
Figure 3.6.2.6-7. **Females – Flanks.** This view shows the sides and flanks, with the HOREs (L) showing less streaked than the COREs (R). Image by Phil Davis.
Figure 3.6.2.6-8. Females – Ventral View. This view shows again the overall size differences. The unstreaked undertail coverts of the Greenland HORE (L) are evident; however, the specimen tags mostly obscured the undertail coverts on the other specimens. Image by Phil Davis.
Tray Shots. A couple of wide-angle specimen tray photos (Figure 3.6.2.6-9 and -10) are provided to give a macro-level view of taxa size and coloration comparisons.

Figure 3.6.2.6-9. *C. h. hornemanni* vs. *exilipes* – tray shot. This wide shot of specimen trays shows the overall size and coloration differences of the female Greenland HORE (L) and the Southern HORE (R). Image by Phil Davis.
3.6.2.6.3 Hybrids

I found the Smithsonian’s drawer of “hybrids” to be of theoretical interest, despite most scholarly references that cite that hybridization between Common and Hoary Redpolls is either non-existent or very limited. Most of the specimens were classified by Ludlow Griscom in 1949 and Ralph Browning of the USNM in 1974. I contacted the retired Browning to try and determine what criteria were used for classification. Browning commented that many redpoll developments were published over the past 33 years and suggested that some of the literature after 1974 should have moved him to rework the collection, but he was not able to do so. Perhaps the identification of these specimens can be revisited using modern DNA identification techniques.
3.6.2.7 Redpoll Literature Cited and References


3.7 Bridled Tern (*Sterna anaethetus*) vs. Sooty Tern (*S. fuscata*)

Account by Paul Pisano

3.7.1 Background
On 6 Sep 2006, Hurricane Ernesto passed by Maryland and a number of sightings were recorded of tropical terns. The purpose of this study was to look at the undersides of the primaries of these two tern species. Field guides show more extensive white on the undersides of Bridled Terns than Sooty Terns, and the Committee wanted to get a better understanding of this difference.

3.7.2 Findings
Though it was impossible to see the whole underwing, enough could be seen to get an appreciation of the difference. In Figure 3.7.2-1, this difference is apparent, showing the inner web of the Bridled Tern’s primary to be a clean white (top bird in the figure), versus the inner web of the Sooty Tern’s primary, which is gray (bottom bird in the figure). The figure also shows how there is no contrast between the wing linings and the primaries on the Bridled Tern, whereas there is a marked contrast between the wing linings and primaries on the Sooty Tern. Therefore, it stands to reason that this could be an additional field mark when viewing these tropical terns. See Figure 3.7.2-2 for an alternate view of the underwing of the Sooty Tern.

![Figure 3.7.2-1. Bridled Tern (top) showing white inner web of primary versus Sooty Tern (bottom) showing gray inner web. Image by George M. Jett.](image-url)
After studying numerous Bridled Tern skins, it was also noted that the white collar is quite variable, ranging from quite prominent to completely absent. Therefore, the absence of a white collar should not be used as a field mark to distinguish between these two species. However, the uniform black upper surface of the Sooty Tern, versus the two-toned appearance of a Bridled Tern (gray back with black wings) is valid. This two-toned appearance on the Bridled Tern also applies to the demarcation between the black cap and the gray mantle. Figure 3.7.2-3 shows this contrast between the cap and mantle of the Bridled Tern well.
4. **Adjournment.** The Workshop ended at approximately 3:00 pm.

5. **Acknowledgements.** Thanks to the species account authors and to George Jett for most of the images. Thanks to Paul O’Brien for a review of the first draft and a special thanks to Ray Kiddy for a very careful review of the final draft.

Respectfully submitted,

Phil Davis, Secretary  
2549 Vale Court  
Davidsonville, MD 21035  
pdavis@ix.netcom.com

revised 09 Feb 2009