

## **Status and Occurrence of Costa's Hummingbird (*Calypte costae*) in British Columbia.**

**By Rick Toochin and Don Cecile.**

### **Introduction and Distribution**

The Costa's Hummingbird (*Calypte costae*) is a spectacular looking species that is found as a year round resident in most of its breeding range, which is the Sonoran desert. (Howell 2003). The Costa's Hummingbird occurs commonly from southern California, south throughout the Baja Peninsula as well as east to the adjacent areas of south eastern California into southwestern Arizona; and east to the extreme south western corner of New Mexico, north into southern Nevada and south western Utah (Howell 2003, Dunn and Alderfer 2011). The range of the Costa's Hummingbird extends south into western Mexico with residents in the Pacific Sonora and wintering further south in the Sinaloa areas of western Mexico (Howell and Webb 2010). A small number of birds are found in Texas and Kansas from the months of January to late March and September to December. North of California, the Costa's Hummingbird is a rare, but increasing, vagrant to Oregon, where it is no longer a review species by the Oregon Bird Records Committee with over 40 records and a breeding record (Wahl *et al.* 2005, OBO 2012). In Washington, the Costa's Hummingbird is a bit more rare with 9 accepted records by the Washington Bird Records Committee (WBRC 2012). There are 2 accepted records in Idaho by the Idaho Bird Records Committee, and at least 1 by the Alberta Bird Records Committee. In British Columbia, the Costa's Hummingbird is a rare to casual, but increasing, vagrant with over 20 Provincial records (Campbell *et al.* 1990, Toochin *et al.* 2014a, Please see Table 1). In Alaska, the Costa's Hummingbird is considered a casually occurring species with at least 6 state records (West 2008).

### **Identification and Similar Species**

The identification of the Costa's Hummingbird is covered in all standard North American Field Guides. The adult males are one of North America's most beautiful hummingbirds. The adult male has a dark royal purple head and throat with long gorget feathers hanging down the sides of the throat. Depending on the angle by which light traverses the iridescent gorget feathers, they may appear deep dark blue. In all ages the Costa's Hummingbird always shows a black bill, dark brown eyes and dark blackish-brown legs and feet (Baltosser and Scott 1996). The Costa's Hummingbird is similar-looking to its sister species the Anna's Hummingbird (*Calypte anna*). The females of both species are more subtle in plumage characteristics and need greater attention to detail to identify (Howell 2003, Dunn and Alderfer 2011). The following identification criteria are taken from Baltosser and Scott (1996) and gives good detailed information on important plumage markings and feather molt.

The juvenile plumage of Costa's Hummingbird, both sexes is similar looking to adult female birds, but feathers of the nape and back are edged with grayish-buff and the tail is double-rounded and is slightly notched at the center, instead of looking wholly rounded (Bent 1940, Tyrrell and Tyrrell 1985). The throat of the male is spotted with dusky spots and has at least a few metallic purple feathers are present. The spotting is normally lacking in females (<5%). The females lack metallic purple feathers. The tip of the third rectrix feather (R3) on female birds has a greater area of white (11.3–16.2 mm) than on male birds (3.5–5.6 mm).

The juvenile plumage is almost completely replaced before the bird is one year old and is completed annually each year thereafter. The molt of the Costa's Hummingbird is similar in many ways to that of other species of hummingbirds (Wagner 1955, Wagner 1957, Tyrrell and Tyrrell 1985).

The sequence of the primary molt in the Costa's Hummingbird parallels that of the Anna's Hummingbird (Williamson 1956) and both the Ruby-throated Hummingbird (*Archilochus colubris*) and the Black-chinned hummingbird (*Archilochus alexandri*) (Baltosser 1995). The primaries are molted from the inside out, beginning with P1 (the feather closest to the secondaries); and then the rest are replaced symmetrically on both wings. This is done sequentially through the eighth primary feather, after which the tenth primary feather is lost before the ninth primary feather. The molt of the rectrices does not begin until the primary molt is well under way, which is at about the time the sixth primary feather drops, and can happen later (Baltosser and Scott 1996). The feather loss and replacement is a symmetrical which proceeds from the inside out, beginning with R1 (or the central tail feather) and generally ending with the fifth rectrix feather, then the outermost tail-feathers. Despite the early appearance of at least a few purple gorget feathers in young males (Baltosser 1987), the gorget and crown are last to be renewed (Baltosser and Scott 1996).

The timing of the molt in Costa's Hummingbird does not appear to be the same as for other migratory species of North American hummingbirds. This is true for at least a large segment of the population that molts in the summer and fall (Stiles 1973), and not in the winter or the spring as was previously thought (Bent 1940). There is some indication that the molt in Costa's Hummingbirds may be more complicated because there are both resident and nonresident populations (Baltosser and Scott 1996).

The following description of the adult male Costa's Hummingbird is adapted from Ridgway (1911), Baltosser (1987) and Baltosser and Scott (1996). The Head, except for the postocular region, is a brilliant iridescent metallic violet or amethyst-purple, changing to violet-blue, even greenish, or reddish purple-magenta in certain light. The latero-posterior feathers of the throat

are elongated with the remainder of upperparts, including the four middle rectrices, and are a dull metallic bronze-green or greenish-bronze colour. The tail, except the four middle rectrices, is a grayish-brown or brownish-gray that is faintly glossed with bronze-greenish. The remaining rectrices (tail feathers) are darker on the shafts and toward the feather tip. The remiges (flight feathers) are brownish-slate or dusky coloured and are faintly glossed with a purplish colour. The wing-coverts are greenish-bronzed coloured, with a turquoise wash. The fore-neck is a pale brownish-gray or grayish-white colour that turns into a grayish colour on the chest. The remainder of underparts is a metallic bronze-green or greenish-bronze colour with the feathers distinctly margined with a dull grayish colour. The femoral tufts on each side of rump are white and the central feathers on the undertail-coverts are a light brownish-gray or bronzy colour with whitish edges.

The following description of the adult female Costa's Hummingbird is adapted from Ridgway (1911), Baltosser (1987) and Baltosser and Scott (1996). The upper areas of the female are a dull metallic bronze-green or greenish-bronze colour with the forehead sometimes showing a dull grayish-brown colour. The middle pair of rectrices are bronze-green and the next pair of feathers (R2) are similar but with the terminal portion of the feathers appearing black. The third pair of feathers (R3) are tipped with a dull white or pale brownish-gray colour, and these are extensively black subterminally across the feathers and are a dull brownish-gray basally along the feathers with the gray and black colours separated (at least on outer web) by more or less a metallic bronze-green colour. The fourth and outermost pairs of feathers (R4–5) have a broader whitish tip with a grayish colour on the feathers more extended, and there is little if any metallic greenish colour between the gray and black. The remiges are brownish-slate or dusky in colour and are faintly glossed with a purplish wash. The underparts are a pale brownish-gray colour, with a pale dull whitish colour on the chin, upper throat, and on the undertail-coverts. The femoral tufts on each side of rump are white in colour. The wing-coverts are a greenish-bronze colour.

The only likely species to cause confusion is the larger Anna's Hummingbird. Given good views, the identification of the adult and immature males is fairly straight-forward and should not create any problems for observers in British Columbia. On adult and immature females it is important to look at the folded wing on sitting birds. The tail of the Anna's Hummingbird extends well beyond the folded wingtip (Sibley 2000). On Costa's Hummingbird the tail and the folded wingtip meet each other showing no wing or tail extension (Sibley 2000). The Anna's Hummingbird is also a bit larger than the Costa's Hummingbird in size and overall weight (Sibley 2000). This can be hard to see on birds that are on their own. The call notes of the Anna's Hummingbird are also different to the Costa's Hummingbird (Sibley 2000). The Anna's Hummingbird has a high thin "*stt*" call note (Sibley 2000). The call note of the Costa's

Hummingbird is a thin buzzing sound that rises and falls in pitch (Sibley 2000). The outer rectrix feather is much narrower in Costa's Hummingbird than in Anna's Hummingbird. As in other Nearctic hummingbirds, males perform spectacular courtship dives, but Costa's Hummingbirds give a distinctive whistled vocalization while perched and diving.

### **Occurrence and Documentation**

The Costa's Hummingbird is a casually occurring species in British Columbia with 25 Provincial Records (Campbell *et al.* 1990, Toochin *et al.* 2014a, Please see Table 1). Since 2005 there have been 9 records, including one male that successfully wintered and remained in a Point Grey neighbourhood for over two consecutive years (Campbell *et al.* 1990, Toochin *et al.* 2014a, Please see Table 1). There are 8 records from all over Vancouver Island (Toochin *et al.* 2014b). There is one record of a returning male bird to the Sunshine Coast over three consecutive years, but the bulk of the records come from the Lower Mainland with 7 records, 3 from the Upper Fraser Valley and 3 from the interior (Campbell *et al.* 1990, Toochin *et al.* 2014a, Please see Table 1). The lack of records from the interior is interesting, and likely reflects the small number of observers for the region. The vast majority of Provincial records come from the months of April through to July (Toochin *et al.* 2014a, Please see Table 1 & 2). Almost all the records from British Columbia are of adult males, and during this period to date that has been the case. This likely reflects post-breeding dispersal of males that breed in California during the months of February to March (Small 1994). Once male hummingbirds finish mating with the females, they have nothing to do with the raising of the young birds and are free to disperse (Baltosser and Scott 1996). The timing of this dispersal perfectly coincides with birds heading north in the spring and ending up in the Province. This strong spring pattern of vagrancy is repeated in both Oregon and Washington State (OBO 2012, WBRC 2012). In Oregon, the Costa's Hummingbird is increasingly being found with greater frequency throughout the year (Wahl *et al.* 2005). This increase of birds well north of their common range might be a slow expansion of this species northward that may well, in the future, mirror the Anna's Hummingbird's expansion north out of California. The Costa's Hummingbird is attracted to both flowers and hummingbird feeders which have, in the past, kept birds in one area for an extended period of time (Baltosser and Scott 1996). The low number of immature and female birds is likely due to the fact that they are very similar looking to the Anna's Hummingbird and only after careful scrutiny would these plumaged birds be noticed by most observers. The Costa's Hummingbird is a species that is possible anywhere in the Province and, with records for Alaska in the fall (West 2008), as well as a record in the spring for Triangle Island on April 21, 1994 (Jones and Cooke 1994), it could turn up along the north coast and the Queen Charlotte Islands. Another limiting factor in the interior of the Province is that, unlike on the coast where hummingbirds can be seen year round, hummingbird feeders are not generally left out early in the spring or late into the fall or the winter due to the extensively cold winters. Over the past 20 years

Anna's Hummingbirds have been found in the fall and winter in the Okanagan and even in the Prince George region (Campbell *et al.* 1990, D. Cecile Pers. Comm.). It seems likely that more late fall or winter Costa's Hummingbird are possible as there is a photo-documented record of a first year male from Wynndel in the Kootenays from November 17- December 1, 2008 (Campbell *et al.* 1990, Toochin *et al.* 2014a, Please see Table 1). It is very likely that there will be many more Costa's Hummingbird records for British Columbia in the future as the watching of hummingbirds in back yard feeders is very popular, and most people would notice a male quite easily. As with all rare and interesting species, it is encouraged that observers get photographs of any future Costa's Hummingbird records.



Figure 1 & 2: Costa's Hummingbird adult male at Jordan River on April 7, 2007. Photos © Rick Toochin.



Figure 3 & 4: Costa's Hummingbird adult male at 35<sup>th</sup> and Camosun Street, Point Grey, Vancouver on January 22, 2011. Photos © Don Cecile.

**Table 1: Records of Costa's Hummingbird for British Columbia:**

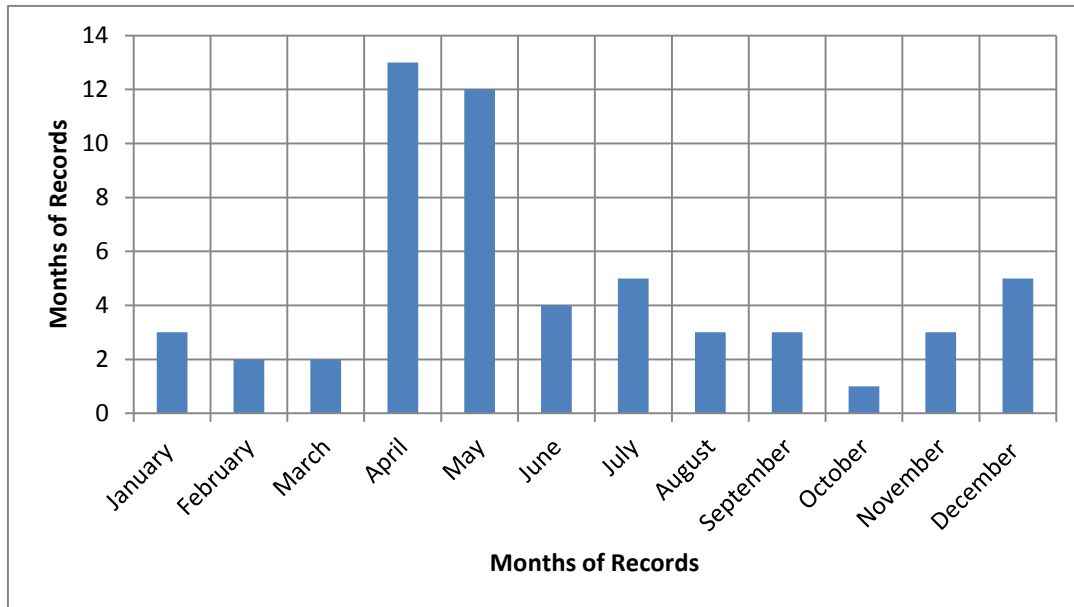
- 1.(1) adult male April 14-17, 1972: R.C. MacKenzie-Grieve, mobs: Cadboro Bay (Tatum 1973, MacKenzie-Grieve and Tatum 1974)
- 2.(1) adult male December 27-30, 1973: Wendy Marshall, mobs: West Vancouver (Shepard 1974, Campbell *et al.* 1990)
- 3.(1) adult male July 3, 1984: David Thompson (RBCM Photo 940) Nanaimo (Campbell 1984, Campbell *et al.* 1990)
- 4.(1) adult male April 13-14, 1985: Whaler Bay, Gabriola Island (Campbell *et al.* 1990)
- 5.(1) adult male May 17, 1986: Wilma Robinson, mobs (RBCM Photo 1132) 20217 McNeil Rd., Sheridan Hill, Pitt Meadows (Mattocks 1986, Campbell *et al.* 1990)
- 6.(1) adult male May 17-19, 1987: Mike Bentley, mobs (RBCM Photo 1171) Lillooet (Mattocks and Harrington-Tweit 1987, Campbell *et al.* 1990)
- 7.(1) adult male May 19- June 1, 1987: Jim & Nancy Jellet, mobs (RBCM Photo 1172) Burnaby (Mattocks and Harrington-Tweit 1987, Campbell *et al.* 1990)
- 8.(1) adult male April 21, 1994: Ian Jones: Triangle Island (Jones and Cooke 1994)
- 9.(1) adult male May 2- June 11, 1995: K & R. Bidniak (photo) Dominion Rd., Coquitlum (Elliott and Gardner 1997, Plath 2000)
- 10.(1) adult male April 26, 1996: Henry Davis: Vancouver (Toochin 2012a)
- 11.(1) adult male April 25 – May 17, 1997: R.C.& M. MacKenzie-Grieve, mobs: Cadboro Bay, near Victoria (Toochin *et al.* 2014b)
- 12.(1) adult male April 9-13, 1999: G. Lewis, and other observers: Sooke (Shepard 1999, Toochin 2012b)
- 13.(1) adult male May 15-23, 1999: J. and B. Skimming, mobs : Sardis, Chilliwack (Shepard 1999, Toochin 2012c)
- 14.(1) adult male April 1-10, 2000: Denis Knopp, Jason Osterhold, mobs (photo) Ryder Lake, Chilliwack (Bain and Shannon 2000, Toochin 2012c)
- 15.(1) adult male April 27-28, 2000: Jim Wisnia, mobs (photo) Brakendale, Squamish (Bain and Shannon 2000, Toochin *et al.* 2014a)
- 16.(1) adult male April 21-25, 2005: Jared Clausen, mobs (photo) mile 28 on Hwy 12 at Fountainview Academy, s of Lillooet (Toochin *et al.* 2014a)
- 17.(1) adult male April 7-8, 2007: Rick Toochin, and other observers (photo) Jordan River (Cecile 2007, Toochin 2012b)
- 18.(1) adult male April 27-May 6, 2008: A & L Doeksen, mobs (photo) Eagle Mountain, Abbotsford (Cecile 2008, Toochin 2012c, Toochin *et al.* 2014a)
- 19.(1) 1<sup>st</sup> fall male November 17- December 1, 2008: Linda Van Dam, mobs (photo) Wynndel (Toochin *et al.* 2014a)
- 20.(1) adult male May 18 & 27, 2009: Rick Toochin, Louis Haviland, Mike Ashbee: Jordan River (Toochin 2012b)
- 21.(1) adult male June 20-25, 2010: Meg Brown, mobs (photo) 35<sup>th</sup> and Camosun Street, Point Grey, Vancouver (Toochin 2012a)
- (1) adult male July 15-August 15, 2010: Dave Carmean, mobs (photo) 4018 West 31<sup>st</sup> Ave., Vancouver (Toochin 2012a)
- (1) adult male September 3-13, 2010: mobs (photo) Dunbar area, Vancouver (Toochin 2012a)

- (1) adult male November 21, 2010-January 2, 2011: Dave Carmean, mobs (photo) 4018 West 31<sup>st</sup> Ave. & neighborhood, Vancouver (Toochin 2012a)
- (1) adult male January 3-May 19, 2011: Meg Brown, mobs (photo) 35<sup>th</sup> and Camosun Street, Point Grey, Vancouver (Toochin 2012a)
- (1) adult male December 18, 2011-December 10, 2012: Meg Brown, mobs (photo) Point Grey and Surrounding Area, Vancouver (Toochin 2012a)
- 22.(1) adult male July 15-24, 2012: Barry Janyk, mobs (photo) Gibsons (Toochin *et al.* 2014a)
- 23.(1) adult male May 13-18, 2013: Barry Janyk, mobs: Gibsons (Toochin *et al.* 2014a)  
{likely same bird returning as record #23}
- (1) adult male July 1-9, 2013: Barry Janyk, mobs: Gibsons (Toochin *et al.* 2014a)  
{likely same bird returning as record #23}
- (1) adult male August 31, 2013: Barry Janyk, mobs: Gibsons (Toochin *et al.* 2014a)  
{likely same bird returning as record #23}
- 24.(1) immature/female September 4-15, 2013: Myra and John Toochin, and other observers: 959 West 58th Ave., Vancouver (J. Toochin Pers. Comm.)
- 25.(1) adult male May 1-5, 2014: Barry Janyk, mobs (photo) Gibsons (D. Cecile Pers. Comm.) {likely same bird returning as records #22 & 23}

Hypothetical Records:

- 1.(1) adult male April 29, 1997: *fide Don Cecile*: Queen Elizabeth Park, Vancouver (Toochin 2012a)

**Table 2: Seasonal distribution of Costa’s Hummingbird records in British Columbia:**



**Table 2:** Note the sharply defined occurrence in the spring of this species with April and May having the highest number of records.

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## **References**

- Bain, M. and D. Shannon. 2000. Cross Canada Round-up: April and May 2000 – British Columbia. *Birders Journal* 9: 109-112.
- Baltosser, W. H. 1987. Age, species, and sex determination of four North American hummingbirds. *N. Am. Bird Bander* 12:151-166.
- Baltosser, W. H. 1989. Costa's Hummingbird: its distribution and status. *West. Birds* 20:41-62.
- Baltosser, W. H. 1995. Annual molt in Ruby-throated and Black-chinned hummingbirds. *Condor* 97:484-491.
- Baltosser, William H. and Peter E. Scott. 1996. Costa's Hummingbird (*Calypte costae*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology [Online resource] Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/251>
- Bent, A. C. 1940. Life histories of North American cuckoos, goatsuckers, hummingbirds, and their allies. *U.S. Natl. Mus. Bull.* 176.
- Campbell, R. W. 1984. Wildlife atlases progress report – winter 1983-84. *B.C. Naturalist* 22(2): 6-7.
- Campbell, R.W., N. K. Dawe, I. McTaggart-Cowan, J. M. Cooper, G. W. Kaiser, and M. C. E. McNall. 1990. *The Birds of British Columbia – Volume 2 (Nonpasserines [Diurnal Birds of Prey through Woodpeckers])*. Victoria: Royal British Columbia Museum.
- Cecile, D. 2007. Winter season- British Columbia. *North American Birds* 61: 314-315.
- Cecile, D. 2008. Spring season- British Columbia. *North American Birds* 62: 93-95.
- Dunn, J. L. and J. Alderfer. 2011. *National Geographic Field Guide to the Birds of North America*. National Geographic Society, Washington D.C. 574pp.



- Elliott, K. and W. Gardner. 1997. Vancouver Birds in 1995. Vancouver Natural History Society, British Columbia. 92pp.
- Howell, S. N. G. 2003. Hummingbirds of North America: The Photographic Guide. Princeton University Press, New Jersey.
- Howell, S. N. G. and S. Webb. 2010 (eds). A guide to the birds of Mexico and northern Central America. Oxford University Press Inc., New York. 851pp.
- Jones, I. L. and F. Cooke 1994. Migration Monitoring at Triangle Island in 1994. Centre for Wildlife Ecology, Simon Fraser University, Unpublished Report, Burnaby. pp 28.
- MacKenzie-Grieve, R. C. and J. B. Tatum. 1974. Costa's Hummingbird, a new bird for Canada. Canadian Field-Naturalist 88: 91-92.
- Mattocks, P. W. 1986. The spring migration – northern Pacific coast region. American Birds 40: 1244-1248.
- Mattocks, P. W. and B. Harrington-Tweit. 1987. The spring migration – northern Pacific coast region. American Birds 41: 478-482
- OFO. 2012. Oregon Field Ornithologists - Records Committee. [Online resource] <http://www.oregonbirds.org/index.html>. [Accessed: December 14, 2013].
- Plath, T. 2000. Vancouver Bird records Committee Report 1994-1998. Vancouver Natural History Society Discovery 29: 41-57.
- Ridgway, R. 1911. The birds of North and Middle America. U.S. Natl. Mus. Bull. no. 50, pt. 5.
- Shepard, M. G. 1974. British Columbia birds – winter season 1973-1974. Vancouver Natural History Society Discovery 3: 4-11.
- Shepard, M. G. 1999. Spring migration: March 1 – August 31, 1999-British Columbia. North American Birds 53: 318-319.
- Sibley, D. A. 2000. The Sibley guide to birds. Alfred A. Knopf, New York. 473pp.
- Small, A. 1994. California birds: their status and distribution. Ibis Publishing Co. Vista, CA.

- Stiles, F. G. 1973. Food supply and the annual cycle of the Anna Hummingbird. Univ. Calif. Publ. Zool. 97:1-109.
- Tatum, J. B. (editor). 1973. Annual bird report - 1972 - for southern Vancouver Island. Victoria Natural History Society, Victoria, British Columbia. 80pp.
- Tobish, T. G. and M. E. Isleib. 1989. The nesting season: Alaska region. Am. Birds 43:1354-1357.
- Tobish, T. G. and M. E. Isleib. 1992. The autumn migration: Alaska region. Am. Birds 47:135.
- Toochin, R. 2012a. Checklist of the Rare Birds of the Vancouver Area: Casual and Accidental Records. Revised Edition. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/BirdsRareVancouver%20X.pdf>
- Toochin, R. 2012b. Rare birds of the Juan de Fuca Strait checklist area (British Columbia). Revised edition. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/BirdsRareJuandeFucaXZA.pdf> [Accessed: March 2, 2014].
- Toochin, R. 2012c. Rare birds of the upper Fraser Valley: Revised edition. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/BirdsRareFraserValleyXZA.pdf> [Accessed: March 2, 2014].
- Toochin, R., J. Fenneman and P. Levesque. 2014a. British Columbia rare bird records: January 1, 2014: 3rd Edition. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/BCRareBirdListJanuary2014XZBC.pdf> [Accessed: March 2, 2014].
- Toochin, R., P. Levesque, and J. Fenneman. 2014b. Rare Birds of Vancouver Island. [Online resource] Retrieved from <http://www.geog.ubc.ca/biodiversity/efauna/documents/RareBirdRecordsofVancouverIslandXZA.pdf> [Accessed: March 2, 2014].
- Tyrrell, E. Q. and R. A. Tyrrell. 1985. Hummingbirds: their life and behavior, a photographic study of the North American species. Crown Publishers, New York.
- Wagner, H. O. 1955. The molt of hummingbirds. Auk 72:286-291.

- Wagner, H. O. 1957. The molting periods of Mexican hummingbirds. *Auk* 74:251-257.
- WBRC. 2012. Washington Bird Records Committee – Summary of Decisions. Washington Ornithological Society, Seattle, WA. [Online resource]  
<http://www.wos.org/wbrcsummaries.html>. [Accessed: December 16, 2013].
- West, G.C. 2008. *A Birder's Guide to Alaska*. American Birding Association, Colorado Springs, CO. 586 pp.
- Williamson, F. S. L. 1956. The molt and testis cycle of the male Anna Hummingbird. *Condor* 58:342-366.
- Woods, R. S. 1927. The hummingbirds of California. *Auk* 44:297-318.