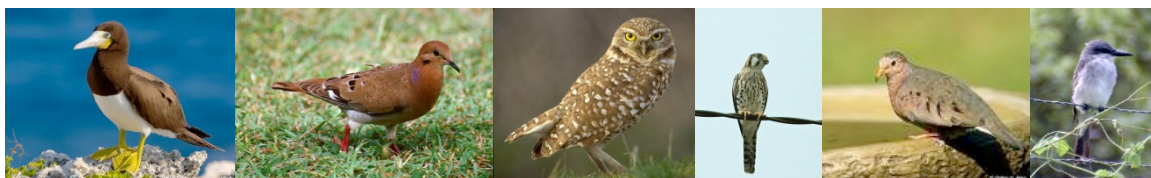


OCCASIONAL PAPER NO. 11 - THE NEVIS ORNITHOLOGICAL SOCIETY (THE NOS),
MAY 2012

**THE BIRDS OF NEVIS (JUST NEVIS), WEST INDIES, INCLUDING BOOBY ISLAND:
AN INFORMAL HISTORY OF THE SCIENTIFIC COLLECTING OF ORNITHOLOGICAL SPECIMENS
ON THE ISLAND OF NEVIS.**

Mark Michael Ludlow^{1,2}

¹PhD Candidate, Ornitho-Archaeology, University of Wales, Lampeter, United Kingdom; e-mail MMLBird@aol.com; ²Current Addresses: 501 Slaters Lane #1022, Alexandria, Virginia 22314, USA: & Blue Roofed House (Blue Monkey), Oualie Lane South, Oualie Bay, Nevis, West Indies



Introduction

Some say it is all in the numbers – Well not all – but numbers do give us a perspective to which we often can relate and give us as well a basis, a starting point, for deeper understandings: In this case the birds of Nevis, including Booby Island.

Before we begin with the numbers, one must know that we are dealing with a moving target and a great many unknowns. One might think that in this day and age of science and information that we would have a substantial handle on such basic knowledge as how many different species and possibly sub-species of birds are to be found on the relatively small island of Nevis (circa 36 square miles). **Well we do not!** We do have some idea about those species of birds that have been reported in the past – but only where that information was published and published widely enough to endure over time and be recoverable and available for recitation. The problem is there has been relatively little original scientific field work ever done on Nevis. If you carefully look at references to visits by scientists and old published articles of scientific visits, either they never published their findings, never actually made it to Nevis (only visiting St. Kitts), or if they did actually visit Nevis, those visits were extremely brief. There are occasional references to work conducted on St. Kitts and Nevis but those references to the two separate islands are conjoined because they are two geographically and ecologically separate islands which compose the single political country joined in a federation, The Federation of St. Kitts (St. Christopher) and Nevis, which, when in actuality the referenced research was independent and only conducted on the island of St. Kitts, within the conjoined country of St. Kitts and Nevis. To make matters more confusing, administratively and politically the island of Nevis has their own local island government, The Nevis Island Administration. For matters of state The Federation of St. Kitts (St. Christopher) and Nevis government prevails and also acts as the local government for the separate island of St. Kitts (St. Christopher). This political structure evolved from a British colonial history. By continuously referencing two islands, implies or gives the impression that research was conducted on both islands when in fact that research was conducted solely on a single island – usually St. Kitts (St. Christopher). In exasperation, when will

Nevis be a free and separate country and not the step-child of the larger and often controlling island of St. Kitts (St. Christopher)?

Early References & the History of Avian Specimen Collecting on the Island of Nevis

The history of documenting, in an enduring published manner, the avifauna (the birds) of the separate island of Nevis may begin in c. 1688 when Hans Sloane MD (Sloane 1707) voyaged to Jamaica from England and while in route briefly visited many of the islands of the Lesser Antilles. His primary interests were botanical and his collections became the basis for the British Museum and its offspring now known as the Natural History Museum in England. His references to the denuded state of the island of Nevis for agricultural purposes are poignant and illuminating – an island denuded almost to its highest elevations for various colonial agra-businesses such as the growing of tobacco, indigo, cotton, and sugarcane.

One of the early references to bird species on Nevis came from the Reverend William Smith, former rector of St. John's on the island of Nevis. He was asked by a professor at Trinity College at Cambridge to document his recollections of Nevis: Over an unknown number of years he wrote a series of letters to that professor regarding Nevis, and almost anything else that came to mind, including such topics as deciphering codes. He subsequently published his eleven letters in a work dated 1745 entitled (shortened version): *A Natural History of Nevis and the Rest of the English Leeward Charibee Islands in America*, in which he made very limited mention of a few imprecisely described species of birds he had seen on the island of Nevis. This untrained commentator was far from accurate, extraordinarily brief, and the work was not at all what the title might otherwise suggest: This work is a curiously disjointed series of reminiscences of his five years on Nevis and commentaries on other unrelated things of interest to him; written and published more than c. 15 years after having left Nevis. With all its shortcomings and failed expectations it is a work still very much worth reading in its entirety.

The earliest recorded bird specimen collecting on Nevis was by members of the Cottle family in the 1800's. We know that because T.J. Cottle (probably Jr.), son of the Thomas John Cottle who caused the construction of what is now known as the Cottle Church on Nevis, sent to The British Museum in London 'a few birds' in the form of stuffed skins known to include the important 'type specimen' of a Green-throated Carib hummingbird, which when described in a scientific journal became known as 'The Type Specimen' to which all like others are compared. Stuart Danforth, in an addendum to his publication of 1936, also mentions 4 specimens of 4 species of birds contributed to the British Museum by a W. Cottle of Nevis.

In May of 1880 Frederick Albion Ober collected bird specimens from Nevis which he apparently sold to The Smithsonian Institution in the United States, as was his manner and one of the apparent methods by which he financed his travels (Ober 1879a, b, c, d, e, f; 1880). Six (6) specimens of birds from Nevis collected by Ober now reside in the Smithsonian Institution – National Museum of Natural History, Division of Birds, in Washington, D.C. (NMNH 2011) and are to be found in their publically accessible database (<http://collections.mnh.edu/search/birds/>): Specimen # 81047 was probably collected by Ober but shows as collector unknown (it is sequentially logical as well as source logical) and two (2) specimens (#81043 and #81047) are not on the publically available database. If correct, in total there are then nine (9) specimens collected by Ober from Nevis at the SI – NMNH. Ober was not a formerly trained scientist but rather an impoverished self-educated individual who, at the end of his life, was a real estate and insurance salesman from America (Unknown source) who wrote more than 30 (according to The Four-Track News, Dec. 1903), 40 (according to NYT 2 June 1913 - Obituary), 50 (according to Spearman 2005-2006), 100 (according to his sister Miss Sara Endicott Ober 1930 at the age of c. 76 – Ober 1930: 3), 'entertaining and instructive' travel books – he was referred to as a naturalist, ethnologist, traveler, writer and lecturer (Suburban Real Estate - date unknown, est. to be post 1908, see Spearman 2005-2006: 10). He is credited with discovering 22 bird taxa new to science (NYT 1913, Spearman 2005-2006). In addition to the published books authored by Ober in various genres, he is credited with c. 8 periodical publications under the name of Beverly, as well as c. 10 Smithsonian Institution publications by George N. Lawrence of that institution in which Ober's ornithological collection work was reported: Those works also may contain written works by Ober.

As a further example of how little actual ornithological field work actually was ever conducted on Nevis, a professor Stuart Danforth, (obscurely published his visits to St. Kitts and Nevis) and from whom we have some first records of

bird species on Nevis, spent only parts of three days on Nevis in 1930, parts of four days in 1931 (but collected only on 6 and 7 August), and a few hours on 29 June 1935 when he collected 2 sets of eggs from 2 different species of dove). A V. Biaggi Jr. has been noted as a co-collector on Nevis with Danforth in 1935. One gets the impression that he often ventured only a few miles out of the town of Charlestown: In his publication entitled *The Birds of St. Kitts and Nevis* (Danforth 1936) he documented his personal observation of a grand total of only 18 bird species of birds for Nevis: All other species of birds mentioned by him for Nevis came from third party reports – reports from other researchers from different times. From his 3 short trips to Nevis there are only 10 specimens, representing only 10 species, of birds that are residing in the Smithsonian Institution - National Museum of Natural History in Washington, D.C. (3 specimens are not in the computerized database: # 356278, #356372, and #354884) and all of those are only from his 1931 trip to Nevis (7 in Charlestown and 3 collected in Jessups, c. 2 miles north of Charlestown): One could say he missed most all of the bird species on Nevis and did not go very far out of town! One must wonder what this adventuring naturalist was doing while he was on Nevis, perhaps imbibing in a rum drink or two: Carib beer did not start production until circa 1950: Or possibly taking the baths of some renowned.

In 1937 Danforth (1937: 226-227) published ‘*A Revision of the West Indian Races of Loxigilla Noctis (Linnaeus)*’ in which he mentions 3 specimens of only adult male Lesser Antillean Bullfinch from Nevis which he compared to 37 bird specimens of Lesser Antillean Bullfinch of both sexes and various ages from St. Kitts. These specimens were collected in prior trips, in part mentioned above and do not represent new bird specimens. As per Professor Carlos A. Delannoy PhD, of the University of Puerto Rico, Mayaguez, Puerto Rico, the entire collection of bird specimens, including those from Nevis and St. Kitts, collected by Stuart Danforth were donated to the Smithsonian Institution - National Museum of Natural History in Washington, D.C. (Delannoy 19 October 2011, personal communication). There is an exciting story that may come from this dated publication, circa 74 years ago: The Lesser Antillean Bullfinch (*Loxigilla noctis coryi*), or a small population of yet to be defined “Bullfinch”, found on the island of Nevis may, in fact, be a separate subspecies of Lesser Antillean Bullfinch. It has been noticed by some, including the late James ‘Jim’ Johnson and this author, that some of the population of Lesser Antillean Bullfinch found on the island of Nevis appear bigger and overall more robust than those on the island of St. Kitts. This field observation was also noted by Danforth (1937: 226-227) and he stated ‘Birds [*Loxigilla noctis coryi* (Ridgway)] from Nevis agree well with those from St. Kitts in color, but they average considerably larger and may represent a new subspecies, but unless further material corroborates this difference it seems best to regard the Nevis birds as *coryi*’.

The critical measurements by Danforth (1937: 226-227) of the three (3) Nevis collected specimens of *Loxigilla noctis coryi* (Lesser Antillean Bullfinch), location unknown or uncertain, are all of **adult males**: wing measurements - 68.0 -70.6 mm (average 69.20 mm); tail measurements - 51.3 – 56.6 mm (average 54.57 mm); culmen from base measurements – 15.2 – 16.2 mm (average 15.80 mm); tarsus measurements – 17.4 -21.5 mm (average 18.83 mm). These specimens have yet to be correlated to those in the SI – NMNH collections and their whereabouts are currently unknown.

James Bond (1900-1984), ornithologist, from the Academy of Natural Sciences in Philadelphia – not 007 of Her Majesty’s Service (but for whom the character was named by Ian Fleming), apparently visited Nevis and some of what he noted is referenced in *The Birds of St. Kitts and Nevis* (Danforth 1936), *Check-list of Birds of the West-Indies* (Bond 1956), and *Birds of the West Indies* (Bond 1969). In the collections of the Academy of Natural Sciences in Philadelphia, with which Bond was affiliated, there is only 1 bird specimen from Nevis which was collected by Bond on 6 January 1929 and it was a Lesser Antillean Flycatcher. The wife of James Bond, Mary Fanning Wickham Bond wrote two books (Bond 1971, 1980) about traveling with her naturalist husband within the Caribbean as well as five other substantial published works (Lutz date unknown).

On 21 and 22 February 1982, David W. Steadman and R. I. Crombie formerly of the Bird Division of the National Museum of Natural History of the Smithsonian Institution in Washington, D.C. collected bird specimens on Nevis to obtain solely their skeletons: Currently there are fifty seven (57) bird skeletons that were collected on Nevis that are currently residing in those collections in Washington, D.C. There were 13 species of birds represented in those 57 specimens collected solely for their skeletons by Steadman and Crombie on Nevis.

Of the most recent avian importance regarding the island of Nevis, in April 2012, a National Geographic Society funded scientific field research expedition (The Ricklefs Expedition of 2012), to both the island of Nevis and the island of St. Kitts, was conducted by: 1) Professor Robert Ricklefs of the Biology Department of the University of Missouri – St. Louis (Member of the National Academy of Science); 2) Dr. Steven Latta, Director of Conservation

& Field Research, of the National Aviary, Pittsburg, Pennsylvania; 3) two PhD students, Maria W. Pil and Leticia Soares, both from the laboratory of Professor Ricklefs within the Biology Department of The University of Missouri – St. Louis and; 4) the author. Mark Michael Ludlow, a PhD student in archaeology at The University of Wales – Trinity Saint David, Lampeter, Wales, United Kingdom. They collected, via mist netting with subsequent timely release alive, circa **700** separate birds from circa **18** taxa from which circa **1300** blood samples were collected for the purposes of DNA and blood parasite analysis. The processing and analysis of those collected materials is ongoing.

Avian Collection Specimens Originating from the Island of Nevis

The state of accessible ornithological specimen collection and the identification and quantification of those collection specimens which originated from the island of Nevis becomes important at this juncture to put the issues discussed herein in perspective.

The collections of the British Museum (now The Natural History Museum), the Academy of Sciences in Philadelphia, and the SI-NMNH have an uncertain number of Nevis sourced bird specimens due to the incomplete digitization of their manually and individually catalogued specimens. As of circa January 2012, then available through their respective publically available on-line data bases, the aggregate list of various specimen types: skin, fluid, egg and/or nest, or skeleton, represent c. **20** different species of bird from Nevis. Circa **10** of those **20** different species (c. **50%**) are represented only by their skeletons.

The two major North American ornithological collections and the major British ornithological collection have been consulted, and as noted above, very little from Nevis can be found (The computer data bases for various institutional collections are often non-existent, incomplete, or yet to be remotely accessible). As an example of the difficulty in determining collections and specimens originating from the island of Nevis, a survey initiated in 1966 and published in 1973 attempted to have **1,456** institutions and individuals disclose the numbers of bird study skin specimens, bird skeletons, fluid preserved bird specimens, bird eggs, and bird nests that were in their collections. Circa **860** entities responded (circa **59%**): From those respondents it was determined that more than **4,001,175** bird study skins, **142,150** skeletal specimens, **52,025** fluid-preserved specimens, **634,840** eggs and/or nests were in the collections of respondents in the United States of America and Canada (Banks *et al* 1973, amended and increased (without cumulative detail) in Clench *et al* 1976). With a response ratio of only **59%** to a certainly incomplete list of collections to begin with, the number of specimens in the United States and Canada remains substantially unknown: A further untold number of avian related specimens reside in collections both public and private around the world. Roselaar (2003: 253-337) reported, from what must have been an incomplete list of institutions and collections, a combined questionnaire survey (c. **190** from which c. **160** responded – c. **84%** response rate) and internet searches, that c. **4,000,000** bird skins resided in institutions and collections in Europe and he estimated that the total number of skins of all non-European collections was at least c. **5,000,000**, of which the United States and Canada accounted for c. **4,000,000**. Large portions of the world were not considered for the collection of data to include: Asia, Africa, the Soviet Union, Australia and New Zealand, etc. Furthermore, many if not most of these collections and those institutions responding, not responding, and not considered, do not permit detailed access via the internet due to: 1) the number of specimens that must be re-catalogued via computer from paper records; 2) insufficient funding; or 3) lack of interest. The worldwide number of all bird related items held in public and private collections including; skins, mounts, skeletons, in alcohol, egg sets, or nests may run into the many **tens of millions**.

The numbers identifiable to solely the island of Nevis demonstrate that very little ornithological field work has ever been conducted on Nevis, particularly where the results were published or the collected specimens are known and endure for further research.

The Problem & Issue of Conjoining - Again

Often when a report refers to St. Kitts and Nevis it is referring to the artificially conjoined political entity and not that the scientific field work was actually conducted on both of the geologically separate and environmentally distinct islands. **Research on one island is never research on both islands!** In the case of birds – lists historically

have combined by implication the bird species of both separate islands: For example there are those birds found once and only once since the 1800's on St. Kitts and found never on Nevis, and vice versa. As a current example, this author discovered and photographed a Fork-tailed Flycatcher from South America for the very first time on Nevis in 2010: That bird species has never been recorded as having been seen on St. Kitts. This brings us to the issue of who decides if a bird has been seen or not, i.e., properly reported and accepted, and by whose authority. That is why the newly formed Nevis Ornithological Society is attempting to form a Records Committee with the objective of critically evaluating any reported sightings with academic precision and objectivity involving high levels of evidence for acceptance. In the recent past we could have relied, in part, on the expertise of Nevis's highly regarded resident naturalist, James ("Jim") W. Johnson, unfortunately and sadly Jim died in a house fire that consumed both his prodigious memory and his physical records.

Lists of birds seen at a particular place have real value apart from science. Bird watching and ecotourism have become an increasing part of worldwide tourism and affluent British and American travelers, in particular, can be keen birdwatchers. They are known to travel the entire globe expending billions, yes, billions of dollars, on that travel, lodging, guides, and the equipment for satisfactory bird watching, i.e., binoculars, guide and identification books, etc. From these economics there emanates a conflict between a 'big list' to attract tourists and an 'honest list' of what actually could be seen. A single bird species seen once and only once, and collected in 1886, is not a bird species one can expect to find during one's week on Nevis or St. Kitts. **But reality is even more exciting** – so little ornithological field work and solid bird watching has been done on Nevis that one has a good chance of being the one to record a bird species never reported and recorded before on Nevis! (See below).

Back to Numbers & Conclusions

So let us now look at the numbers (more numbers) and get some expanded perspective. There are circa **9,722** different species (kinds of birds capable of interbreeding and producing viable offspring) of birds in the world and there are circa **26,419** different sub-species of birds in the world (enough difference to be noticeable but insufficient to be separate species – exhibiting a presence of specifically adopted traits). There are circa **604** species of birds in the Caribbean and of those circa **163** species of birds are considered endemic, native to/found only, in the Caribbean. That means that about **27%** of the bird species in the Caribbean are endemic only to the Caribbean: Found in the Caribbean and nowhere else in the world. Circa **248** species of Caribbean birds are considered threatened and on their way to becoming extirpated (becoming locally non-existent) or extinct (ceasing to exist forever). This is a strange and artificially low number since all living species of organisms worldwide are threatened by human population growth and the effects thereof such as pollution and habitat loss.

The major Caribbean bird identification book, *A Guide to the Birds of the West Indies* (Raffaele *et al* 1998) lists **128** bird species recorded up to c. 1998 for Nevis and St. Kitts combined (excluding two species now thought to be extinct) but that number has at least been increased by subsequent sightings to c. **200**, as per Michael Ryan of St. Kitts - using his standards for inclusion. Circa **44** bird species recorded for St. Kitts have not been recorded on Nevis – This may not be because there are fewer bird species on Nevis but because in the past more studies and reports have come from St. Kitts. To date the informal list for Nevis is about **156** different species of birds recorded since the 1800's with no mention of possible different sub-species.

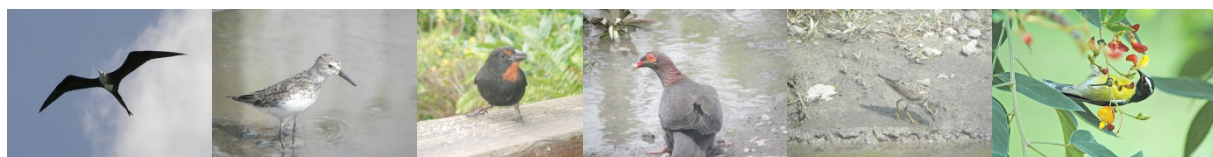
Herein lays one of the problems: The records for each separate island are separate and should not be conjoined as was done in the Raffaele *et al* (1998) book. Another problem is that there are varying authorities for inclusion or exclusion depending upon who is doing the listing and their degree of scientific rigor.

Since 2007, members of the newly formed Nevis Ornithological Society and distinguished others have added nine (**9**) bird species not mentioned in the authoritative Raffaele *et al* (1998: 453-495) Locality Checklist, they are: Shiny Cowbird, Tropical Mockingbird, Fork-tailed Flycatcher, Great Black-backed Gull, White-winged Dove, Eurasian Collared-Dove, Black-crowned Night-Heron, Anhinga, and House Sparrow.

The Nevis Ornithological Society believes that the cumulative number of bird species seen on Nevis could subsequently grow to possibly **210** or more different bird species with an abundance of serious bird watching on land and sea, prolonged multi-seasonal observations, and sustained and repeated academic fieldwork, which must

include DNA collection and analysis. What has been seen in the distant past and what is present now and what might be seen in the future are all quite different and it is most exciting, particularly since most anyone can contribute to the new science of what bird species and sub-species actually are on Nevis and document what bird species might show up on Nevis in the near future.

So come to Nevis, and if you are already here, get out there and bird watch and take a camera to document what you see! Report what you see on Nevis, with supporting information (photographs etc.) to the author - contact information below. To request a free copy of the folded card stock: **CHECKLIST OF THE BIRDS: NEVIS, WEST INDIES**, contact Mark Michael Ludlow at MMLBird@aol.com – as long as supplies last. Copies may also be available at The Hamilton Museum of The Nevis Historical & Conservation Society, Charlestown, Nevis, as well as certain select resorts on the island of Nevis.



Bibliography

- Banks R.C., Clench M.H., Barlow J.C. 1973. Bird collections in the United States and Canada. *The Auk* 90: 136-170.
- Bond J. 1956. *The Check-list of the Birds of the West Indies*. Philadelphia, Pennsylvania: Academy of Natural Sciences.
- Bond J. 1969. *The Birds of the West Indies*. New York, New York: Houghton Mifflin Company.
- Bond M.W. 1971. *Far Afield in the Caribbean: Migratory Flights of a Naturalist's Wife*. Wynnewood, Pennsylvania: Livingston Publishing Company.
- Bond M.W. 1980. *To James Bond with Love*. Lititz Pennsylvania: Sutter House.
- Clench M.H., Banks R.C., Barlow J.C. 1976. Bird collections in the United States and Canada: Addenda and corrigenda. *The Auk* 93: 126-129.
- Danforth S.T. 1936. The birds of St. Kitts and Nevis. Port-of-Spain, Trinidad: Government Printing Office. (Reprint from 'Tropical Agriculture', Vol. XIII, No. 8, pp. 213-217, 1936).
- Danforth S.T. 1937. A Revision of the West Indian Races of *Loxigilla Noctis* (Linnaeus). *Journal of Agriculture of the University of Puerto Rico* 21: 225-232).
- Ludlow M.M. 2011. *Checklist of the Birds: Nevis, West Indies*. The Nevis Ornithological Society, Nevis, West Indies.
- Lutz R. date unknown. Biography: Mary Fanning Wickham Bond. Pennsylvania Center for the Book: Penn State. http://pabook.libraries.psu.edu/palitmap/bios/Bond_Mary_Fanning_Wickham.html (3 December 2011).
- New York Times. 2 June 1913. Frederick A. Ober Dead. Short obituary.
- NMNH. 2011. Collections: The Division of Birds, Department of Vertebrate Zoology, National Museum of

Natural History, Smithsonian Institution. <http://collections.mnh.si.edu> (1 December 2011).

Ober F.A. 29 January 1879. Postal card addressed to Robert Ridgway (SI-NMNH). Matters discussed are uncertain but apparently involve specimen sales and payments. Smithsonian Institution Archives, Washington, D.C.

Ober F.A. 28 February 1879. Handwritten letter addressed to Robert Ridgway (SI-NMNH) requesting payment and attempting to sell specimens. Smithsonian Institution Archives, Washington, D.C.

Ober F. A. 6 March 1879. Postal card addressed to Robert Ridgway (SI-NMNH). Informing Ridgway of an address change. Smithsonian Institution Archives, Washington, D.C.

Ober F.A. 18 March 1879. Letter addressed to Robert Ridgway (SI – NMNH) anxiously requesting payment for bird skins previously purchased. Smithsonian Institution Archives, Washington, D.C.

Ober F.A. 20 March 1879. Postal card addressed to Robert Ridgway (SI-NMNH) attempting to entice Ridgway in purchasing more bird specimens or does he know who would like some Antillean species. Smithsonian Institution Archives, Washington, D.C.

Ober F.A. 1 April 1879. Letter to Robert Ridgway (SI-NMNH) attempting to sell bird specimens from Tobago (40) at a discounted price. Smithsonian Institution Archives, Washington, D.C.

Ober F.A. 1879. Ornithological exploration of the Caribbee Islands. In *Annual Report of the Board of Directors of the Smithsonian Institution for the Year 1878*, 446-451. Washington, D.C.: Smithsonian Institution.

Ober F.A. 22 November 1880. Postal Card to Robert Ridgway (SI-NMNH) attempting to sell a short list of bird specimens (skins, nest, and eggs), also indicates he is going to Mexico. Smithsonian Institution Archives, Washington, D.C.

Ober F.A. 24 March (year unknown). Handwritten letter on graph like paper to Robert Ridgway (SI-NMNH) attempting to sell his entire collection as a single sale including his Tobago specimens and all associated field notes. Smithsonian Institution Archives, Washington, D.C.

Ober S.E. 23 April 1928. Typed letter addressed to Charles W. Richmond (SI-NMNH) providing information regarding her brother F.A. Ober to Richmond who was apparently writing a book about F.A. Ober. Smithsonian Institution Archives, Washington, D.C.

Ober S.E. 5 July 1930. Typed letter addressed to Herbert Friedmann (SI-NMNH) with additional biographical information regarding her brother F.A. Ober. Smithsonian Institution Archives, Washington, D.C.

Parkes K.C. 1989. In memoriam: James Bond. *The Auk* 106: 718-720.

Raffaele H., J. Wiley, O. Garrido, A. Keith, J. Raffaele. 1998. *A Guide to the Birds of the West Indies*. Princeton, New Jersey: Princeton University Press.

Roselaar C.S. 2003. An inventory of major European bird collections. *Bulletin of British Ornithologists' Club*: 253-337.

Sloane H. 1707 & 1725. *A Voyage to the Islands Madera, Barbados, Nieves, S. Christophers and Jamaica with a Natural History of the Herbs and Trees, Four-footed Beasts, Fishes, Birds, Insects, Reptiles etc. of the Last of those Islands* (shortened version): Two volumes. London, England: Hans Sloane MD.

Smith Rev. W. 1745. *A Natural History of Nevis, and the Rest of the English Leeward Charibee Islands in*

America (shortened version). Cambridge, England: Printed by J. Bentham.

Spearman A. "BookRags Biography of Frederick Albion Ober". Dictionary of Literary Biography. 2005-2006.
<http://www.bookrags.com/biography/frederick-albion-ober-dlb/> (7 October 2011).