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History of the extant museum specimens of the Faroese white-speckled raven

H. VAN GROUW^A and D. $BLOCH^B$

^A Bird Group, Department of Life Sciences, The Natural History Museum, Akeman Street, Tring, Hertfordshire, HP23 6AP, UK (e-mail: h.van-grouw@nhm.ac.uk).

^B Dr Bloch, Professor at the Faroese Museum of Natural History, died on 28 February 2015.

ABSTRACT: The white-speckled raven, a colour aberration of the Faroese raven *Corvus corax varius* Brünnich, 1764, has occurred on the Faroe Islands since at least the Middle Ages, and was always prized by collectors. In the second half of the nineteenth century while the Faroese raven population as a whole was suffering intense persecution, pied individuals were even more severely hunted, and were extinct by the beginning of the twentieth century. Details of twenty six specimens found in museum collections are given in this paper, as well as an overview of collectors on the Faroes who may have collected specimens.

KEY WORDS : Faroese raven - pied raven - Corvus leucophaeus - Alfred Benzon.

INTRODUCTION

The white-speckled (or pied) raven was known among the Faroese people as Hvitravnur. Despite being an important part of the islands' natural history, the last pied bird was shot in 1902 (van Grouw 2014). A sharp decline in raven numbers on the Faroes after 1850 was mainly due to the substantial increase in the human population, in combination with the local beak-tax¹ that was still in force (Bloch 2012). In addition to the species as a whole being hunted for pest-control purposes, white-speckled individuals were consistently targeted for foreign bird collections, especially in the nineteenth century. It is assumed that the recessive allele for pied plumage (leucism) was lost from the Faroese ravens as a result of genetic drift in combination with the severely decreased population when the last recorded white-speckled bird was killed in 1902 (van Grouw 2014).

A remarkable bird, living in low numbers in a remote place, will inevitably be targeted by collectors. Both living birds and mounted specimens of the white-speckled raven have been sent to museums and collections of curiosities all over Europe since the seventeenth century. An intensive search for specimens has documented 26 birds in 15 museums (Table 1). Ironically, no specimen is left in the Faroes. The Faroese Museum of Natural History has only a replica made by the taxidermist Jens-Kjeld Jensen.

EARLY SPECIMENS MENTIONED IN ORNITHOLOGICAL LITERATURE

In this paper we have mentioned only the publications in which white-speckled raven is given distinct (sub)species status. An almost complete list of literature can be found in Bloch *et al.* (2010).

White-speckled ravens were described and mentioned in many publications during the past three centuries. Most, and probably all of the authors cited below had themselves seen the birds. The present whereabouts of most specimens are unknown. Probably the earliest mention was in the catalogue of Museum Wormianum, the private collection of Ole Worm (1588–1655), a Danish Physician. He had two specimens, now lost, collected around 1650 (Worm 1655)

Mathurin Jacques Brisson (1723–1806) was the first to describe and depict the Faroese pied raven in *Supplementum ornithologia* (1760). Brisson called this bird "Le Corbeau Blanc de Nord", *Corvus Borealis Albus*. The specimen Brisson described was in the collection of Jean Thomas Aubry and had been sent from the Faroe Islands to Marquis de Marigny by Thurot (Brisson 1760). After Aubry's death in 1785 it is possible that at least part of his collection went to the Cabinet d'histoire naturelle du Jardin du Roi, that was to form the core of the current Muséum national d'Histoire naturelle, Paris (MNHNP). No written evidence of the receipt of Aubry's collection was found by us in the archives of MNHNP. However, the Museum possesses a very old and insect-eaten white-speckled raven specimen which appears to have been part of the former Jardin du Roi collection. This bird is considered by us to be Aubry's specimen (see Appendix, pp 32–38).

The Danish zoologist Morten Thrane Brünnich (1737–1827) is considered to be the first author to give a binomial to the Faroese white-speckled raven. Because nothing was known at that time about plumage pigmentation and mutations, aberrant birds were often assumed to be new species. On being appointed the curator of the bird collection belonging to Christian Fleischer (1713–1768), a Danish civil servant, Brünnich wrote *Ornithologia borealis* (1764), describing the bird-life of Scandinavia including new species (Kristiansen 1979). The white-speckled raven he named *Corvus varius* after the variegated black and white plumage. Fleischer's collection appeared to be important in its time and held many birds from the Faroes; presumably it contained a pied raven but no information has been traced about the collection.

Peder Ascanius (1723–1803) was a Norwegian naturalist, a former student of Linnaeus and, between 1759 and 1771, professor of zoology and mineralogy at Copenhagen (Stamm 1979). He described the white-speckled raven in 1767. Based on his own observations and information from Faroese residents, he was the first to state that these ravens were not a distinct species as they could have entirely black parents. Ascanius named it *Corvus variegates Faeröensis*, ignoring the name given by Brünnich three years earlier.

Ascanius's detailed description was mainly based on skins and live birds that were sent to Copenhagen in relatively large numbers (Salomonsen 1934). He kept one as a pet. Given their age (pre-1767), most of Ascanius's specimens may be considered lost.

In 1817 the French ornithologist Louis Jean Pierre Vieillot (1748–1831) also described the white-speckled raven, naming it *Corvus leucophaeus*. Several years later, between 1820 and 1826, Vieillot published his *La galerie des oiseaux, oiseaux du Cabinet d'histoire naturelle du Jardin du roi*, illustrated with engravings by Paul Louis Oudart (1796–1860). In the volume published in 1825 *Corvus leucophaeus* was depicted on plate 100 and accompanied by a brief description of the "species" that is more or less an abstract of the earlier (1817) description. This specimen had obviously been kept in MNHNP and must have been Aubry's bird and the same specimen that was seen earlier by Brisson.

In 1827 the German zoologist Joannes Georg Wagler (1800–1832) of the University of Munich, published *Systema avium*, in which he introduced many new scientific names for

known species merely because in his opinion the earlier names were not good enough. In this work, he named the white-speckled raven *Corvus leucomelas*. Although numerous novelties described by Wagler were based on material in the Munich museum, he had seen *Corvus leucomelas* in Paris. It is therefore unlikely that a specimen was present in Munich. Many specimens and all the inventory lists up to 1903 were lost during the Second World War, so establishing the exact history is now impossible.²

As just noted, the white-speckled raven was considered a distinct species by many authors and this has resulted in different names: *Corvus Borealis Albus* Brisson, 1760; *Corvus varius* Brünnich, 1764; *Corvus variegates Faeröensis* Ascanius, 1767; *Corvus leucophaeus* Vieillot, 1817; *Corvus leucomelas* Wagler, 1827. Because the scientific names in Brisson's *Ornithologie* (1760) were not consistently binomial or trinomial, the International Commission on Zoological Nomenclature considered many of his names invalid (ICZN 1955). This included the scientific name for "Le Corbeau Blanc de Nord", *Corvus Borealis Albus*, because *borealis* was not used here in a technical nomenclatorial sense but only as a geographical location. Therefore Brünnich's name *varius*, the next oldest, and truly binomial, is accepted as the valid name for the subspecies from the Faroes and Iceland, including the white-speckled variety. It is remarkable, however, that Vieillot's name *leucophaeus* was in use until early 1900 to distinguish the black-and-white birds.

SPECIMENS COLLECTED AFTER 1800

Many of the white-speckled ravens killed in the nineteenth century were destined for foreign collections. Besides collectors visiting the Faroes to obtain specimens for themselves, many island residents were involved in procuring them to order. Johannes Hagemann Reinhardt (1776–1845), curator at the Royal Museum of Natural History in Copenhagen from 1806 and a professor at the University of Copenhagen from 1813, asked Emilius Marius Georgius Løbner (1766–1849), who was Governor of the Faroes between 1816 and 1828, for skins of birds in different life-stages, as well as for eggs.³ Reinhardt wanted the skins and eggs for the collections in Copenhagen as well as "currency" for exchange with other museums. The first collection was badly damaged by pests during the winter in the governor's house. However in 1822, among other birds, a juvenile white-speckled raven was sent alive to Copenhagen. Its fate is not known.

The first foreign collector recorded in the nineteenth century was Carl Julian (von) Graba (1799–1874). Graba was a Danish-German lawyer and naturalist based in Hamburg and he visited the Faroes for three months in 1828. On 25 April, in Kollefiord, he shot a white-speckled raven that was being mobbed by other ravens and crows (Graba 1830). He gave a detailed account of the bird's colour and pattern, which included the first, and only, description of the colour of the bare parts. The eyes were grey-greenish white ("Iris graugrünlichweiss": Graba 1830). The skin around the eyes was white and the beak was blackish with some white markings on it. The scales on the feet were black, but the pads and claws were white.

According to Graba the white-speckled birds were not very rare in the Faroes as he had seen at least ten individuals and he was certain that it was not a distinct species. He was told by locals that raven broods from black parents could include both "white" and black young, and that in the village of Dalur every year a mixed pair bred. The male was black and the female "white" and they often had both black and "white" youngsters. Graba shot a second white-speckled raven with more white on the breast but less white in the wings and tail. This specimen was apparently sent to Frankfurt but is not in the extant collections.⁴ As the original inventory books were lost in the Second World War we could not check whether the bird was indeed received in Frankfurt. Its arrival there is doubtful as the bird is not mentioned in Hartert's 1891 catalogue. So the whereabouts of both specimens collected by Graba are unknown.

Hans Christopher Müller (1818–1897) was a sheriff on the island of Streymoy in the Faroes, a politician and a keen naturalist who published a fauna of the Faroes, including 124 bird species (Müller 1862). In his account Müller mentioned the white-speckled raven only briefly as being known and not that uncommon. Later, however, he became more interested in the white-speckled ravens, not only from a scientific point of view. After 1862, Müller started to collect birds and eggs for foreign museums and private collections. It is known that he sent bird skins, including pied ravens, to the Copenhagen museum and also to private collectors such as Alfred Benzon in Copenhagen (see below) and to the English collectors Feilden (see below) and Edward Hargitt. Of the extant specimens collected by Müller, the earliest dates from 1864 and the latest from 1878. Müller was without doubt the most prolific collector of pied ravens in the second half of the nineteenth century. In the late 1800s he paid two rigsdaler (equivalent to about $\in 2,260$) for a white-speckled bird shot in Nólsoy (Botni 1952). The fate of this particular specimen is not known. Obviously Müller had more than strictly scientific reasons for collecting so many ravens and his efforts to get specimens probably made a significant contribution to the extinction of the white-speckled mutation.

The English army officer and naturalist Colonel Henry Wemyss Feilden (1838–1921) visited the Faroes, by introduction from Henry E. Dresser (see below), to study the islands' natural history and to collect specimens. He stayed for six weeks in May and June 1872, during which time he also met Müller. Feilden wrote to Dresser: "I procured the young of the Raven, one white and two black from the same brood – but unfortunately only got the heads. I picked them up on the occasion when the island of Osteroe was paying its naebbetold [beak tax] to the Sheriff."⁵

During his stay, Feilden recorded as much as possible about Faroese bird-life, based both on his own observations and on the knowledge of local people and the literature. His book *The birds of the Færoe islands* (Feilden 1872) was published shortly after his return to England. The only evidence of white-speckled ravens which he saw was the beak (head) he mentioned in his letter to Dresser. In a footnote in his publication Feilden (1872: 3220) wrote: "I received the bills of a raven's brood, taken the 3rd May, 1872, from a nest near Ore, island of Osteroe; one of the bills, with the bristles attached, was quite white."

These heads/beaks were not in Dresser's collection when it came to Manchester Museum⁶, so it is likely that Feilden kept them himself. Feilden's collection was amalgamated with that of the Scottish naturalist John Alexander Harvie-Brown (1844–1916), and was kept at the latter's home, Dunipace House in Stirlingshire. In 1897 a fire destroyed part of the collection, the remainder going to the Natural History Museum in Edinburgh in 1917.⁷ As the beaks are not extant in Edinburgh, nor in any other museum holding parts of Feilden's collection, it is likely that they did go to Harvie-Brown and that they were destroyed in the fire in 1897.

While Feilden did not collect any pied ravens himself, about a year after his visit to the Faroes he and Harvie-Brown acquired a specimen from Alfred Nicolai Benzon. In June 1873 Benzon wrote to Feilden to thank him for the East Indian birds Feilden had offered him. In return he sent a list of specimens to Feilden to choose from, to pay for the East Indian



Figure 1. Benzon's handwriting and spelling compared: a (upper): label on RBINS 2500d b (middle) list sent to Paul Wiebke c (lower) list sent to Henry W. Feilden (photographs © a & b Hein van Grouw; c Bob McGowan).

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Figure 2. Entry for the white-speckled raven specimens in Benzon's catalogue (photograph by Jan Bolding Kristensen).

birds.⁸ Among about 200 species, mostly from northern Europe, was listed *Corvus corax leucophaeus* (Figure 1c) from the Faroe Islands. Obviously Feilden and Harvie-Brown made their choice as, on 2 October 1873, a letter⁹ and a box of specimens including "*Corvus leucophaeus* Faröe", was sent to Harvie-Brown by Benzon's commissioner, Pastor P. W. Theobald. As this specimen is not extant in Edinburgh, it too was probably lost in the fire of 1897.

Alfred Nicolai Benzon (1823-1884) was probably the most important distributor of specimens throughout Europe. He lived in Copenhagen and was a pharmacist by profession. In 1848 he bought Swan Pharmacy in Copenhagen, which still today is part of Denmark's largest pharmaceutical company, Nomeco. Though much is known about his professional life as a pharmacist, little is known about his interest in ornithology and his private collection. He seems to have had a huge and important bird collection with its own curator, Victor L. Schujen. Benzon was in contact with many collectors throughout Europe and exchanged (or sold?) many duplicate specimens, including white-speckled ravens. His main supplier of the ravens was probably Müller; although Müller must have paid others to collect the birds (see above). The library of the Natural History Museum, Copenhagen, holds the manuscript catalogue of Benzon's collection but none of Benzon's specimens is present in the museum.¹⁰ This catalogue shows that Benzon had seven white-speckled ravens: two mounted specimens and five skins (Figure 2). One mounted specimen was collected in the Faroes in 1861 and the other came from the zoological garden in 1878. The skins, all from the Faroes, were collected in 1857, 1865, 1867, 1869 and 1871. The entry for the 1867 specimen is crossed out, possibly suggesting that this specimen was later used in an exchange. The 1857 and 1869 specimens are now in the American Museum of Natural History in New York suggesting that Benzon's collection was auctioned after his death. The whereabouts of the five other specimens are unknown.

MUSEUM SPECIMENS OF THE WHITE-SPECKLED RAVEN

Probably the oldest museum specimen is in Braunschweig and was collected before 1755, but many specimens collected before 1825 are lost. Those that have survived from later periods are as follows: Hartert and Kleinschmidt (1901) listed seven specimens: three in Tring; one in London; one in Liverpool; one in the Dresser's collection; and one in Dresden, Germany. Salomonsen (1934) followed Hartert and Kleinschmidt (1901) noting the same seven specimens, of which he himself had seen only the London specimen. In addition, he mentioned four specimens in Copenhagen which he had also examined. Ebels (1996) listed 15 specimens: Copenhagen (six), Uppsala (two), Dresden (one), Braunschweig (one), Leiden (one) and New York (four).

As noted, Salomonson (1934) saw only four specimens in Copenhagen, although six had been there since 1910. However, two of the skins may still have been mounted at that time and were therefore in a different part of the museum.

Three of the four specimens in New York mentioned by Ebels (1996), are the same as the Tring specimens listed by Hartert and Kleinschmidt (1901). In 1901 the collection at Tring belonged to Walter Rothschild (Hartert was Rothschild's bird curator). Besides his scientific skin collection, Rothschild had also his own natural history museum with mounted specimens. In the early 1930s, however, the bird skin collection was sold by Rothschild to the American Museum of Natural History, New York, including the pied raven skins. In 1901 Rothschild had only three specimens, but in 1929 he acquired a fourth, and therefore New York's four specimens are all from the Rothschild collection.

After Rothschild's death in 1937 his museum at Tring was bequeathed to the British Museum (Natural History) (BMNH), now the Natural History Museum, London (NHM). In the early 1970s, the BMNH moved its entire bird collection to Tring due to lack of space in London. The London raven specimen, part of the BMNH collection, mentioned by Hartert and Kleinschmidt (1901), is therefore now at Tring. In error Ebels (1996) wrote that "nowadays there are no specimens left in Great-Britain; the London bird was sold to New York". He also did not seem to know that Dresser was a person's name and that his private collection went to the Manchester Museum.

The Liverpool specimen was probably mounted, as figured in Hartert and Kleinschmidt (1901) but is no longer in the collections. Presumably it was on display when the museum was bombed during the Second World War and so was destroyed. It belonged to the collection of Canon H. B. Tristram (1822–1906), a well-known naturalist and one of the founders of the British Ornithologists' Union. He sold his bird collection to the Liverpool Museum in 1896 (Wagstaffe 1978). According to Tristram's catalogue (1894) he received the bird from John Willis Clark (1833–1910), an English antiquarian and academic of Trinity College, Cambridge, who travelled in the Faroes and Iceland during the late summer of 1860 with Viscount Milton, eldest son of the sixth Earl Fitzwilliam.

A FEW MYSTERY SPECIMENS

Besides the five now-missing birds mentioned in the catalogue of Benzon's collection, we have found evidence of the former existence of several additional specimens. Benson's archive in Copenhagen contains a photograph of a mounted pied raven (Figure 3), annotated "Corvus corax Linné, var. leucophaeus (Vieill.). Færó – Thorshavn, 16/10/60". This



Figure 3. Photograph (detail) of a white-speckled raven specimen, "*Corvus corax* Linné, var. *leucophaeus* (Vieill.). Færó – Thorshavn, 16/10/60", found in Benzon's archive and made by Bertel Christian Butz Müller (by courtesy of the Natural History Museum, Denmark).

specimen may have been in Benzon's possession for a while but it is not one of the five missing birds. Remarkably, a copy of the same photograph was found in correspondence, held in the Faroese Museum of Natural History, from Niels Petersen á Botni (1895–1982), a Faroese taxidermist who lived in Nolsoy. On the back of that photograph is printed: "16.10.60" and "Fotografisk Institut Butz Müller & Co., Bredgade 21". Besides being a famous Danish portrait photographer, Bertel Christian Butz Müller (1837–1884) was also a trained pharmacist who had, from 1859, worked at Benzon's Swan Pharmacy (Ochsner 1982). Benzon had helped him to establish his photographic career and the two men had set up a photographic studio and school at Bredgade, Copenhagen, in partnership, in October 1863. Benzon pulled out of the business in 1866, so we can assume that the photograph of the raven was taken between 1863 and 1866. No further details of the specimen are known.

How Botni came by the photograph is not known. He could not have acquired it from Benzon personally as Botni was born 11 years after Benzon's death. However, Botni was very interested in the white-speckled ravens and in 1952 published an overview of his knowledge about the subject, including this: "Some years ago a man, Carl Stemmler, from Switzerland was in the Faroes. The man was very interested in birds and he told me, that in the collection at home as one of their best properties, were two white-speckled ravens from the Faroes" (Botni 1952: 108).

Carl Stemmler (1882–1971), a Swiss furrier, taxidermist and conservationist, had a natural history collection, known as Museum Stemmler, in Schaffhausen. On his death he bequeathed his museum to the Museum zu Allerheiligen in Schaffhausen, where it still remains, in the former home of its founder. The two ravens are, however, not present in Museum Stemmler, nor in the collections of the Museum zu Allerheiligen; neither is there any evidence that they were ever there in the past.²⁴ Most probably they were part of the former Natural History Museum in Schaffhausen, to which Carl Stemmler had given several specimens. However Schaffhausen's Natural History Museum was completely destroyed by bombing in the Second World War²⁴, so the history of these specimens must remain a mystery.

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NOTES

¹ Since the Middle Ages the beak-tax has been in force in an attempt to control pest species. All men between 15 and 50 years of age had to deliver each year at least one beak of certain species of predatory birds including ravens.

- ² Markus Unsöld, pers. comm., February 2012.
- ³ J. H. Reinhardt to E. Lobner, 1821: original ms in Faroese National Archive, Letter no. 61, 1822.
- ⁴ Gerald Mayer, pers. comm., March 2012.
- ⁵ H. Feilden to H. Dresser, 29 June 1872; original ms in Manchester Museum archive.
- ⁶ Henry McGhie, pers. comm., March 2012.
- ⁷ Bob McGowan, pers. comm., March 2012.
- ⁸ A. Benzon to H. Feilden, June 1893: original ms NMS Library, Harvie-Brown collection, Box 20/316.
- ⁹ Harvie-Brown collection, NMS Library, Box 4/54.
- ¹⁰ Jan Bolding Kristensen, pers. comm., June 2012.
- ¹¹ Jan Bolding Kristensen, pers. comm., March 2012.
- ¹² Karsten Felsted, pers. comm., March 2012.
- ¹³ Mats Eriksson, pers. comm., April 2012.
- ¹⁴ Smithsonian Institution Archives, Record Unit SIA RU007071.
- ¹⁵ Donald F. McAlpine, pers. comm., March 2012.
- ¹⁶ NHM archive DF938/35.
- ¹⁷ G. Lenglet, pers. comm., February 2012.
- ¹⁸ Henry McGhie, pers. comm., May 2012.
- ¹⁹ Till Töpfer, pers. comm., March 2012.
- ²⁰ Peter Becker, pers. comm., March 2010.
- ²¹ Paul Wiebke to E. Hartert, 25 September 1897; original ms BMNH archive TM1/31/16.
- ²² A. Benzon to Anton Wiebke, 18 August 1883; original ms in Rothschild Library, Tring.
- ²³ Annotated sales catalogue owned by Pat Morris.
- ²⁴ Urs Weibel, pers. comm., June 2012.

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APPENDIX: Summary of extant specimens

Note: images of all 26 extant specimens of the Faroese white-speckled raven and some early illustrations are available as supplementary material online: see http://www.euppublishing.com/doi/suppl/10.3366/anh.2015.0276.

Natural History Museum Denmark (formerly Zoologisk Museum, University of Copenhagen)

Six skins of which three are relaxed mounts:

- ZMUC 41.393, skin, originally labelled "Corvus corax var alba, Faroe Islands"
- ZMUC 41.394, relaxed mount, originally labelled "Corvus corax var., Faroe Islands2
- ZMUC 41.395, skin, originally labelled "Corvus corax L. var. leucophaeus Vieill. ^Q Kollefjord, Faroe Islands; 24 September 1869"
- ZMUC 41.396, skin, originally labelled "Faroe Islands, Streymoy"
- ZMUC 41.873, CN115, relaxed mount, originally labelled "Corvus corax L. var. Corvus leucophaeus Vieill. Faroe Islands, Streymoy
- "ZMUC 48.672, CN114, relaxed mount, originally labelled "Corvus corax L. var. Corvus leucophaeus Vieill. Faroe Islands".

ZMUC 41.393, 41.395, 41.396 and 41.873 were collected by Müller; 41.396 being his earliest specimen in Copenhagen (received March 1864) and 41.395 his last. The latter was received by the museum on 9 November 1869, about one and a half months after it was collected, suggesting that Müller's specimens were skinned and prepared in the Faroes before they were sent to Copenhagen. It is not known whether Müller prepared the skins himself.

Specimens 41.393 and 41.873 were received by the museum on 11 May 1865 and presumably both as skins. However 41.873 was later re-prepared as a mounted specimen. 48.672 was received on 3 October 1853, before the amalgamation of the university collections and the Royal Natural History Museum in 1862, and was most likely a former part of the latter.

Specimen 41.394 is also a relaxed mount. This skin was received by the museum from Otto Helms (1866–1942), a keen amateur ornithologist with his own collection, on 7 April 1910. Whether it was already a relaxed mount or demounted after it was received is not known. However this specimen was never used in a public display by the Natural History Museum, Copenhagen.¹¹

Given that Helms had his own collection it seems strange that he gave this specimen to the museum. Perhaps he had already a specimen himself, or he was donating it to the museum on behalf of a third party? The fate of Helm's collection after his death in 1942 is unknown.

Jagt- og Skovbrugsmuseet, Hørsholm, Denmark

One mounted specimen:

JSH 1283: originally labelled "Faroese White-speckled raven, (*Corvus cornix* var. *leucophaeus.*) from The Faroe Islands 30.06.1885–01.08.1885".

Not much is known about this specimen. The bird was bought from Viggo Nielsen, a taxidermist from Elsinore, Denmark, in 1942.¹² Considering the coincidence of the date, this may be an individual from Helm's own collection.

The mistake in the scientific name -C. *cornix* is the hooded crow - is likely to have been made after the specimen was acquired by the museum. The dates probably indicate the period of collection so presumably it was collected in July 1885, which means this was the last of the extant specimens to be collected.

Zoologiska Museet, University of Uppsala, Sweden

Two mounted specimens:

- UUZM Aves 1215: originally labelled "Faroe Island. Old collection"
- UUZM Aves 1214: originally labelled "Faroe Islands 1886. From Gustaf Kolthoffs' collection, shot 1872, mounted in 1886"

No data accompany 1215, but it must have been collected before 1852 to be referred to as the "old collection".¹³ In the museum's catalogues from about 1785 to 1825, nothing can be found that refers to this white-speckled individual. However, on a separate printed label with the same text and registration number as on the specimen is a hand-written note "Museum Carlsonianum". This might suggest that it belonged to Johan Gustaf von Carlson (1743–1801), a Swedish army officer, ornithologist, and Secretary of State to the King of Sweden (Naumann 1927). He owned an important bird collection, containing both live and mounted specimens, and of 100 of the most interesting – mostly new species – he published four sets of engravings accompanied by text written by Anders Sparrman (1748–820), a former student of Linnaeus (Stafleu 1971). This book, published between 1786 and 1789, bore the same title as his collection, *Museum Carlsonianum*. No pied raven was mentioned in this work. Although the white-speckled raven had already been described by Brünnich and Brisson, this was probably not the reason why this bird is not included. More likely the raven was not yet in Carlson's possession at the time the book was produced.

After Carlson's death, most of his collection was bequeathed to the Swedish Royal Academy of Science of which he became a member in 1787 (collection now in the Swedish National History Museum Stockholm). However, part of Carlson's collection was bought by Carl Peter Thunberg (1743–1828), also a former student of Linnaeus and, since 1770, doctor of medicine at Uppsala University. With the above information and assumptions in mind, it is plausible to believe that specimen 1215 was collected between 1789 (when *Museum Carlsonianum* was finished) and 1801, when von Carlson died, and came to Uppsala University Zoological Museum via Thunberg.

Specimen 1214 was collected by Isac Gustaf Kolthoff (1845–1913), a Swedish taxidermist and amateur zoologist, who visited the Faroe Islands in 1872 (Meijer 1911). It is not known whether he kept the specimen in his own collection or whether he sent it straight to the university. However in 1878 he was employed as a taxidermist at Uppsala University and had, as his main task, to create a display collection of mounted specimens for education and research. He used both fresh specimens and prepared study skins from the collections and possibly also from his own collection. Specimen 1214 was re-prepared by Kolthoff in 1886 and, from the taxidermy style, it is likely that 1215 was also.

Manchester Museum, University of Manchester, England

One skin, adult:

MMUM.BB.3316, originally labelled "Corvus corax, Faroes".

This specimen was acquired from Alfred Benzon by Henry Eeles Dresser (1838–1915), an English businessman and ornithologist and the author of many ornithological papers and books. Dresser's bird collection, including the pied raven, has been in Manchester Museum since 1899.⁶ When Dresser acquired the bird from Benzon is not known, but very likely it was in the mid-1860s. Dresser's archive in Manchester Museum contains a list of the duplicate specimens Benzon had available for exchange at that time. No fewer than five specimens of *Corvus leucophaeus*, four adults and one juvenile, were listed. The date of the list is not known but it had to be shortly after he and Benzon had first met in Copenhagen in March 1865.⁶ Dresser offered a specimen to George A. Boardman (of Maine, USA) in a letter dated 26 May 1865, writing: "Do you want a mounted specimen of the pied Raven (Corvus

leucophaeus faraensis) as I can procure one?".¹⁴ It is unlikely that Dresser would have organized an exchange for a rare bird before arranging one for his own collection, so presumably both Dresser's specimen, and the one offered to Boardman, were of the five listed by Benzon, and acquired in the first half of 1865. However, the list may have been from a later date and sent by Benzon after Dresser already had his own specimen. Dresser and Benzon were both part of a wide network of collectors who arranged exchanges of one another's specimens and who were rewarded in return for their efforts ⁶. White-speckled raven specimens were obviously desirable objects to collectors and it is likely that several of Benzon's birds, probably all originally collected by H.C. Müller, were acquired by other collectors via Dresser. Boardman's reply to Dresser is unknown but there is no pied Raven in his collection, now in the New Brunswick Museum in St. John, Canada¹⁵.

University Museum of Zoology, Cambridge, England

Two skins:

UMZC27/Cor/5/g/3 and UMZC27/Cor/5/g/4, both originally labelled "Corvus leucophaeus Vieill. Faroes".

UMZC27/Cor/5/g/4 has only a few white feathers amongst the smaller primary coverts in both wings. Nevertheless this bird is considered to be a white-speckled individual as these white feathers prove that the bird was carrying the allele for leucism (van Grouw 2014). Both specimens were collected by Müller; UMZC27/Cor/5/g/3 in 1869 and UMZC27/Cor/5/g/4 in 1864 and both were registered in the museum's catalogues in December 1869 with a note: "Sent from the Faroes by Müller to Rev. H. Hawkins & sold at Stevens". Stevens's was an auction house in Covent Garden, London, which sold many collections of natural history in the second half of the nineteenth century.

There is no evidence that the Reverend Henry Hawkins (1825–1904) owned a bird collection, and there appears to be no connection between him and Müller, so why the birds were sent to Hawkins remains unclear. Hawkins was Chaplain of Colney Hatch Lunatic Asylum (Anonymous 1905).

Natural History Museum, Tring, England

One mounted specimen:

BMNH 1886.9.13.13, originally labelled "Thorshavn, Faroe Islands, male, juvenile, 3,6–78. Had just left the nest."

It was only recently that this specimen was reunited with its original registration number and collection data. For many years it had been on public display at the Natural History Museum, London, in an exhibit illustrating albinism, but in 2002 it was recognized as being the extinct white-speckled variety of the Faroese raven. It was subsequently removed from the galleries and put into the museum's scientific collection, but without any data. The specimen was later recognized in a photograph of a glass display case, dating from the early 1890s, leading to the discovery of the lists of specimens used for that display in the museum's archives.¹⁶ This specimen had been collected by Müller on 3 June 1878, and was presented to the BM(NH) in 1886 by Edward Hargitt (1835–1895), together with about 70 other bird skins. Hargitt was a Scottish ornithologist with a particular interest in down and fledgling plumage (Anonymous 1895) – probably the reason why Müller had sent him this pied raven fledgling. Although the albino showcase (still present at the NHM) has undergone several alterations since then, this specimen was on public display for more than 110 years, which accounts for its bleached plumage.

In the early 1960s the specimen formed part of the data for a series of papers about pigment loss in corvids and the question of whether this is of genetic origin. The fact that the specimen was already heavily bleached by the light, and was a juvenile bird, seems not to have been appreciated by these authors. Former Natural History Museum bird curator C. J. O. Harrison (1963) thought the loss of pigment in corvids to be food-related, also resulting in poor quality feathers. He wrote "A mounted specimen of the raven, C. corax, in the Museum collection had completely abnormal plumage, being a diluted partial-albino. The feathers of the lower belly, forehead, and throat were loose and fluffy in appearance. The pigmented portions of the plumage were greyish-brown. . . . ". Obviously Harrison did not know that this was a white-speckled Faroe raven and he also did not seem to have noticed that it was a fledgling, hence the fluffy feathers. Sage (1964) disagreed and wrote:

A mounted specimen of the raven Corvus corax in the collection of the British Museum (Natural History) is described by C. J. O. Harrison as being a diluted partial albino, having the feathers of the lower belly, forehead and throat loose and fluffy in texture, and the pigmented portions of the plumage greyish-brown. The fluffy texture of the plumage of this specimen, which I have myself seen, is presumably due to some defect in the interlocking mechanism of the barbules ... I consider the fluffy or 'hairy' plumage condition to be genetically determined.

Thus Sage, too, failed to recognize the specimen as a juvenile white-speckled raven; remarkable, as he himself had written in an earlier paper (Sage 1962): "An interesting example of partial albinism evolving in isolation is provided by the Ravens of the Faeroes, which were named Corvus varius by Brünnich in 1764".

Thus, in spite of all this attention, the importance of the specimen was never realized, and it remained on public display for almost 40 more years, becoming bleached still further.

National Museums Scotland, Edinburgh

One skin:

NMS.Z 1956.3.

This specimen, an adult bird, was originally in the collection of Thomas Lyttleton Powys (1833–1896), better known to ornithologists as Lord Lilford, for many years President of the British Ornithologists' Union. His private collection contained approximately 3,300 specimens of mainly British and Mediterranean species. His interest in the Faroese bird can be explained as it was a curiosity – always popular with naturalists.

Given the fact that Dresser and Lilford exchanged specimens⁶, it would have been easy for Lilford to have acquired a specimen from Benzon via Dresser. The preparation style of the Benzon/Müller skin specimens is not remarkable but they are all nevertheless quite uniform. Comparison of MMUM.BB.3316 or ZMUC 41.396 with Lilford's specimen, suggests that the latter in all probability came from the same source. Lilford's collection was acquired after his death by J. I. S. Whitaker, and was donated to the Museum in Edinburgh, along with Whitaker's own collection, in 1956 (McGowan 2000).

Muséum national d'Histoire naturelle, Paris, France

One skin (relaxed mount):

MNHNP 5389, originally labelled "Corvus Corax (L) C. leucomelas (Wagl.) T. Europe du Nord."

As discussed above, it is likely that this white-speckled raven is the same specimen owned by Aubry, and described by Brisson (1760). Brisson must have seen it shortly after it arrived in France, but already in the possession of Aubry. The black and white pattern certainly agrees with Brisson's illustration.

It was collected by Thurot for Marquis de Marigny (Brisson 1760). François Thurot (1727–1760), a sea captain, visited Vestmanna in the Faroe Islands between 28 December 1759 and 26 January 1760 but was killed on 28 February 1760 in a naval battle in the Irish Sea on his return journey to France. However, the birds he had collected were safely received by Abel-François Poisson de Vandières, Marquis de Marigny (1727–1781), a collector of curiosities. From him, the bird was passed on to Aubry (Brisson 1760). Jean Thomas Aubry (1714–1785), a abbot in the parish of Saint Louis en l'Isle in Paris, had, according to Hébert (1766: I: 35–36), "a big collection of birds, one of the most beautiful in Paris concerning their rarity and beauty and with the cleverness it is set up, they are nearly all from foreign countries."

Sometime after Aubry's death the specimen went to the Cabinet d'histoire naturelle du Jardin du Roi which, in 1793, became the Muséum national d'Histoire naturelle. However, the date is unknown. Georges-Louis Leclerc, Comte de Buffon (1707–1788), director of the Jardin du Roi from 1739 until his death, does not mention a specimen in his *Histoire naturelle des oiseaux* (1785), and had apparently never seen a specimen. His account of the bird repeated Brisson's description, although he added his own opinion that even in what Brisson terms the White Raven of the North, which ought rather to have been called the Black and White Raven.

This bird in Paris, the second oldest remaining specimen, is the type for three synonyms: *Corvus Borealis Albus* Brisson, 1760, *Corvus leucophaeus* Vieillot, 1817 and *Corvus leucomelas* Wagler, 1827.

Royal Belgian Institute of Natural Sciences, Brussels, Belgium

Two skins (relaxed mounts):

RBINS 2500d and RBINS 2500y, both originally labelled "Corvus corax, L / var. ferroensis Brünnich, Islande".

Both specimens belonged to Baron Michel Edmond de Sélys Longchamps (1813–1900), a Belgian liberal politician and naturalist, and specialist on dragonflies. He was also a keen ornithologist and owned an impressive bird collection of 3,189 specimens, housed in his private museum, Chateau de Longchamps près Waremme, in Liege, Belgium (Fraipont 1910). The collection was donated to the Brussels museum by his grandsons in July 1932.¹⁷

There are no further data with the specimens, but there is strong evidence that at least one, and probably both, came from Benzon. First of all, Selys Longchamps was in correspondence with Dresser in 1871–1872¹⁸ so he could have acquired specimens via Dresser. Secondly, 2500d bears an old hand-written label with the text "*Corvus leucophīьus*, Faröe Inseln". The spelling and the handwriting is similar to the spelling and handwriting in Benzon's catalogue and to the lists of duplicates sent by Benzon to other collectors (Figures 1 and 2).

Selys Longchamps' specimens are most likely to be two of the five specimens offered by Benzon to Dresser, and therefore likely to be collected by Müller.

Naturalis Biodiversity Centre, Leiden (formerly Nationaal Natuurhistorisch museum Leiden)

One mounted specimen:

RMNH 96087, catalogue number 14, originally labelled "Corvus corax, tapirée de blanc, iles Fär". Underneath the pedestal, written in pencil, "leucophaeus Vieill., leucomelas Wagl."

This specimen was received in 1840 from Mr Israël (died 1848), a Copenhagen-based dealer who apparently often spent his summers in Amsterdam. He had good contacts with the Amsterdam dealer G. A. Frank (Fuller 1999). As this raven dates from before 1840 it could be one of the two missing Graba specimens, particularly as the black-and-white pattern of this individual does roughly fit the description of Graba's second bird. Graba may have sold his specimens to a dealer in his hometown and as Israël had dealings with the Hamburg merchant Lintz (Fuller 1999), it is possible that the Leiden specimen was indeed collected by Graba in 1828.

Staatliches Naturhistorisches Museum, Braunschweig, Germany

One mounted specimen:

SNMBG.N-43020, listed in the museum's oldest inventory (dating from 1778) as "274. Corvus Corax mas albo nigroque varius ex Islandia, Linn: Gen: 50. Sp. 2., Schwarz u. Weissbunter Rabe aus Island, Le Corbeau varié d'Islande."

In the 1856 inventory the specimen was given a new number: "1158. Corvus corax, dt. ders. gescheckte Spielart, uraltes Exemplar aus der Sammlung des Herzogs von Orleans. Original zum Titelkupfer von Buffons Naturgeschichte."

From two old labels apparently belonging to the specimen, the bird was bought by Superville and that it had belonged to one of the dukes of Orléans. Daniel de Superville (1696–1773), a Dutch physician, was the founder of the University of Erlangen, Germany, in 1742. In 1749 he was employed in Braunschweig under Duke Karl I (1713–1780), brother-in-law of King Friedrich, to obtain specimens for the duke's private natural history collection, which became a museum in Braunschweig in 1754. In the following year Superville was sent to France to obtain more specimens (Zimmerman 1908).

At that time Louis Philippe I de Bourbon was Duke of Orléans. His father, Louis, had a natural history collection and it is most likely that the raven belonged to him as there is no evidence that Louis Philippe had any interest in natural history. From 1747 the collection was supervised by the physician and naturalist Jean-Étienne Guettard, who may have been Superville's contact. Although part of Orléans's natural history collection finally went to the Jardin du Roi (Muséum National d'Histoire Naturelle), the raven was obviously sold earlier. The connection with Buffon, as suggested in the inventory, is not clear.

As the Braunschweig raven was obtained by Superville in 1755, it is therefore one of the earliest objects in the museum and probably the oldest extant white-speckled raven specimen. Who the collector was is unknown.

Senckenberg Naturhistorische Sammlungen Dresden (formerly Staatliches Museum für Tierkunde Dresden)

One mounted specimen (without tail):

MTD 5073, originally labelled "Corvus corax varius, Faroe Islands". No more data are known.

In the museum's accession catalogue it is indicated that the bird belonged to the "Alte Sammlung" (old collection), from before 1874, the year the zoological museum started to register its specimens.¹⁹ The raven was finally registered in 1883. As the collection date of this bird is not known, it is impossible to link a collector with it.

Übersee-Museum, Bremen, Germany

One mounted specimen:

UMB 3800, originally labelled "Corvus corax var. leucocephalus, Färöer".

This specimen was acquired by the museum in the 1870s, but from whom is unknown. In 1875 the natural history collections belonging to the city of Bremen were donated to the museum and the raven may have been part of this collection.²⁰ The incorrect epithet "leucocephalus" (correctly leucophaeus) is probably a misspelling made by the museum.

Natural History Museum, Vienna, Austria

One mounted specimen:

NMW 46.961 (old number: 1860.I.1.), originally labelled: "Farö, 1845. [?] Oput. [not decipherable]". Later labelled by the Vienna Museum as "*Corvus corax* var. *leucophaea* VIEILLOT, Kopenhagen Museum, Faroer Ins."

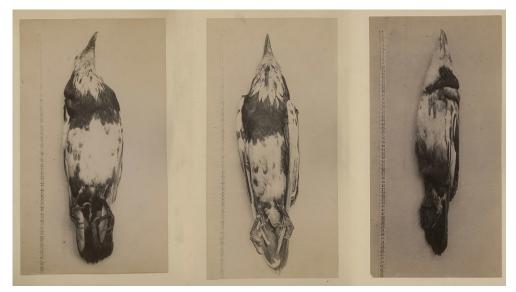


Figure 4. The three specimens from the former Wiebke collection. These photographs, together with a letter and four more images, were sent by Paul Wiebke to Walter Rothschild on 25 September 1897 in order to sell the specimens to Rothschild. They are now in the American Museum of Natural History, New York (from left to right: AMNH 674905, AMNH 674906, AMNH 674904).

This bird was obtained in one of three specimen exchanges from the Copenhagen Museum in 1860. Sadly, only the articles received, and not those exchanged, were mentioned in Copenhagen's inventory books (1845 and 1860). The collector of this early specimen is unknown.

American Museum of Natural History, New York, USA

Four skins:

AMNH 674904, originally labelled "Corvus leucophaeus, Mylingshead, Färoe Islands, 12/6 1869, juv."

AMNH 674905, originally labelled "*Corvus leucophaeus*, Thorshavn, Färoe Islands, 10/21 1867, adult male" AMNH 674906, originally labelled "*Corvus leucophaeus* Vieill. Färoe Islands, 1872, male"

AMNH 674900, originally labelled "Raven, *Corvus corax*, Pied variety, Bt of F. Doggett, Cambridge, June 5th 1915".

These four specimens were all from Walter Rothschild's collection, which he sold to the AMNH in the early 1930s. Three of the specimens (674904, 674905 and 674906) had been bought by Rothschild from Anton Wiebke, in August 1898. Anton's father, C. J. L. Wiebke from Hamburg, possessed a bird collection known as "Sammlung Wiebke", enriched by his sons Paul and Anton in the 1880s (Steinheimer 2002). When the elder Wiebke died in early 1897, the collection and the family business passed to his eldest son Paul. In April 1898 Paul, and his wife, committed suicide because of misfortune in the business and Anton became the sole inheritor of both the collection and the bankrupt company. In order to raise money Anton tried to sell the collection. A first auction was held in June 1898. Anton also, on several occasions, asked Rothschild (through his curator Ernst Hartert) whether he would advance him some money, offering his bird collection in return. An important focus of Wiebke's collection was hybrids and aberrantly coloured birds; objects Rothschild was interested in as well. Initially, Rothschild seemed not to be interested in purchasing the collection and therefore a second auction was held in August 1898, when, surprisingly, he bought all the remaining specimens (Steinheimer 2002), including the three pied ravens. These had already been offered by Paul Wiebke on the 25 September 1897²¹ (Figure 4), but on that occasion Rothschild had declined.

Hartert (1900) showed the white-speckled ravens, among other specimens, as an example of a pied aberration in an "Exhibition of Albinos and other Varieties from the Tring Museum" at a meeting of the British Ornithologists' Club on 25 April 1900. As Hartert stated, "It is not quite correct to call such pied birds albinos, as was often done by collectors – partial albinos or 'leucocisms' would be better determination for such individuals, unless the term 'pied' could be restricted to such 'freaks'."

AMNH 674906 had been presented to the Wiebke brothers by Alfred Benzon in August 1883.²² AMNH 674904 and 674905 must have been acquired by the Wiebkes after Benzon's death, as both are listed in Benzon's own collection catalogue (Figure 2: sixth and seventh entries). Benzon's collection was probably auctioned after his death, as Paul Wiebke wrote in September 1897 to Hartert, "die ich mit dem kauf der Sammlung Benzon, Kopenhagen, erhalten habe [which I acquired from the Benzon collection sale]". After their acquisition by the Wiebkes, an error was made in the collection date of 674905; according to Benzon's catalogue this specimen was collected in 1857, not 1867. 674904 had been collected by Müller.

AMNH 674900 was not acquired by Rothschild until 1929. The only labels attached to the specimen suggest that he acquired it from Doggett in 1915. However, this date is incorrect. Frederick Doggett from Cambridge was a taxidermist and natural history dealer, and Rothschild favoured him as the only person able to make a good mount of a cassowary (Rothschild was fond of cassowaries and kept many at Tring Park, his family estate). However, in 1908 this relationship was ended by Rothschild's brother Charles, who was then in charge of the family finances, as he thought Doggett was far too expensive (Rothschild 2008). The specimen label also reads: "S. Sale 14.4.75" and "Lot 55". This information suggests that the bird was acquired in an auction in 1875. However, "14.4.75" is not a date but the number of the auction: "Sale No 14.475 by Steven's Auction Rooms LTD on Tuesday, June 11th 1929 at 1 o'clock precisely". This sale was advertised as "The well-known and Valuable Collection of Birds formed by the late J. B. Nichols. The collection includes Rareties [*sic*], Aberrations and Hybrids".

John Bruce Nichols (1847–1929) was an enthusiastic collector of British birds and his collection contained many colour aberrations (Anonymous 1930). It was he who presumably bought the specimen from Doggett on 5 June 1915 before the auction of his own collection in 1929. As Nichols was in the habit of recording on the label the price he paid for items in his collection by using a simple code based on substituting letters for numbers (Morris 2006) we know he paid 1s. 1d. for this specimen.

Lot 55 in the auction of Nichols's collection was described as "Raven, a fine pied Var., in Case". This lot also contained a sparrow hawk and a rough-legged buzzard and all three birds were bought by Rowland Ward for the total cost of 30 shillings.²³ Ward probably sold the raven directly to Rothschild, although no correspondence has been found to confirm the sale. The specimen was obviously mounted when Rowland Ward bought it, but it was beautifully re-prepared later as a study skin, presumably by Ward himself or by one of his highly skilled taxidermists.

Where Doggett obtained AMNH 674900 is unknown. Given that Nichols's collection was otherwise only of British birds, it is possible that neither he nor Doggett knew that the specimen was a Faroe raven. Whether Rowland Ward knew is unknown but Rothschild at least must have had suspicions as he had already three specimens from the Wiebke brothers. However on Rothschild's own museum label no race was mentioned. Remarkably, after the specimen was received in the AMNH, it was catalogued as *Corvus corax islandicus*; a name proposed by Hantzsch in 1906 for the Icelandic ravens and still valid in the 1930s. Despite the implications of the name, no pied raven ever occurred in Iceland.

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