As rare as hen’s teeth: aberrantly coloured eggs of the northern lapwing (Vanellus vanellus) and the interface between oology and ornithology

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(Received 13 December 2021; accepted 10 January 2022)

Abstract
The majority of birds lay eggs of a colour and maculation “typical” of their species, but very occasionally individual females produce eggs of unusual colours. In the past, such eggs were often the target of egg collectors. Four trays of unusually coloured northern lapwing Vanellus vanellus eggs originally accumulated by two notable collectors, F.C.R. Jourdain and J. M. Goodall in the late 1800s and early 1900s, were recovered from the home of David Wilson after his death in 2020. Wilson had acquired this lapwing material, comprising 91 clutches and 347 eggs in total, from the avid collector and millionaire, Captain Vivian Hewitt after Hewitt’s death in 1965. The lapwing clutches are unusual both in terms of their colours, ranging from pale blue with almost no maculation (“cyanic”), through to red (“erythristic”), but also in terms of the completeness of their accompanying data. During the 1800s and early 1900s, hundreds of thousands of lapwing eggs were collected annually in Britain and the Netherlands for human consumption, providing egg collectors, like Goodall and Jourdain, the opportunity to screen large numbers of clutches and acquire rare types. The occurrence of rare egg types in museum egg collections have the potential to provide opportunities to better understand the normal physiological and genetic bases of avian egg colour.

Keywords: Alfred Denny Museum, cyanic, erythristic, oology, Vivian Hewitt, Jourdain, Goodall

Introduction
Across birds as a whole, the colours and markings (maculations) of their eggs are extraordinarily diverse (Hewitsson 1831–1842; Kilner 2006; Casey et al. 2012). Ancestrally, birds’ eggs were probably white with no markings (as in reptiles) (Kilner 2006), so the present colours and maculation of birds’ eggs are likely to be the result of natural selection, specifically camouflage from predators, and as a way of distinguishing their eggs from those of brood parasites (Kilner 2006; Spottiswoode & Stevens 2012). In a small number of species, intraspecific variation in egg colour and markings has evolved to allow individual recognition of eggs, as in the common guillemot Urria aalge (Tschanz 1959; Birkhead et al. 2021) and Brünnich’s guillemot U. lomvia (Gaston et al. 1993). Differences in egg colour between individuals and species may also have evolved to signal female quality, to provide protection from solar radiation or to increase eggshell strength (Kilner 2006; Birkhead 2016).

The entire range of avian egg colours is derived principally from just two pigments protoporphyrin IX (responsible for red and brown hues) and biliverdin (responsible for blue and green hues), mixed in different proportions and applied to the eggshell in different densities (Kilner 2006). Just as in many other traits, intraspecific variation in egg colour and maculation exists, but most bird species have a typical range of variation that allows ornithologists to identify the eggs of particular species (Walters 1994). Very occasionally however, eggs of aberrant colour or markings are found, and have generally been assumed to be the result of genetic or physiological anomalies (e.g. Jourdain & Borrer 1914; Bukacinski & Bukacinski 1997). For example, the
extremely rare red or erythristic eggs of the common guillemot (Jourdain & Borrer 1914; Birkhead & Montgomerie 2018), corvids (e.g. raven Corvus corax, Trobe & Whitaker 2014) and lariids (Jourdain & Borrer 1914; Bukacin & Bukacinski 1997) are thought to be due a lack of biliverdin. Similarly, rare blue or cyanic eggs with little or no maculation, have been recorded in species, such as gulls, terns and waders that normally produce heavily marked camouflaged eggs, and are thought be due to the absence of protoporphyrin (Jourdain 1912a, 1912b; Jourdain & Borrer 1914).

Because of their scarcity, erythristic and cyanic eggs are difficult to study. However, when in the past, very large numbers of eggs of particular species were collected for human consumption, opportunities existed for oologists (egg collectors) to examine and obtain relatively large samples of very rare egg types. The best known example is the common guillemot, whose extremely variable coloured eggs were harvested in the tens of thousands annually, notably on the Flamborough headland, northeast England. Initially, these eggs were taken for human consumption but with the rise in the popularity of oology in the 1800s, they were also acquired by collectors who were prepared to pay high prices for unusually coloured specimens (Nelson 1907; Wade 1907; Vaughan 1998). Indeed, most of the collections of common guillemot eggs now in museums, are predominantly of unusual egg types (Birkhead 2016).

Another European bird species whose eggs were harvested in large numbers was the northern lapwing Vanellus vanellus (Shrubb 2007, 2013; Roodbergen 2018). From the 1700s to 1900s a huge trade in lapwing eggs existed in Britain, the Netherlands and some other European countries (Cott 1953-1954: 611; Shrubb 2007: 33). In the 1890s, for example, an estimated 800,000 lapwing eggs per year were imported from Friesland into London (Newton 1896: 505). As well as collecting lapwing eggs for personal consumption, “plover’s eggs”, that is lapwing eggs, became fashionable in London restaurants, with the market value in the late 1700s and early 1800s being 3 or 4 shillings per dozen (equivalent to around £17 today) and in the 1890s, 4 or 5 shillings per dozen (around £32 today).

Background

In 2021, the Alfred Denny Museum at the University of Sheffield, UK, was bequeathed four trays of unusually coloured lapwing eggs with accompanying data, from the vast collection that had once belonged to the millionaire Captain Vivian Hewitt (1888–1965) (see Hywel 1973; Clugston & Fuller 2021; Birkhead et al. 2023). Hewitt had purchased these lapwing eggs (along with the eggs of many other species) from the collections of: (i) Reverend Francis C. R. Jourdain (1885–1940), in 1940 (Clugston & Fuller 2021) and (ii) Jeremiah M Goodall (1862–1939), probably in 1935 (correspondence in the Hewitt Papers — see Birkhead et al. 2023), Jourdain and Goodall in turn, had acquired the eggs either from commercial dealers or other collectors, such as F. G. Lupton (see below), or in Jourdain’s case, sometimes by himself.

The scientific value of old egg collections lies primarily in any accompanying data. Many, but not all, collectors kept written records (data slips) of where and when their eggs were obtained, and often linked that information to a “set mark” written directly on the egg itself. In some instances, especially on larger eggs with little maculation, additional information was also written on the egg itself, usually on one side beside the blowhole, so that the other side could be displayed (Congreve 1949; Cole 2016). This was because for many collectors the motivation for owning eggs was as much (or more) aesthetic as scientific. Frequently however, when collections changed hands, as they often did after the owner’s death, written records became separated from the eggs themselves, greatly reducing their scientific value. This separation sometimes occurred by accident, sometimes it was deliberate when, for example eggs moved from a private collection to a museum where the eggs were “curated.” The focus of natural history museums has generally been scientific and eggs have often been removed from their original collectors’ cabinets and trays to be placed together with eggs from the same species.

For Hewitt, who purchased the collections of several notable oologists (see Hywel 1973; Cole & Trobe 2000; Clugston & Fuller 2021), possession was everything and once he had acquired a collection he rarely looked at it again (Hywel 1973). The advantage of this was that eggs and any accompanying data slips remained together. Following Hewitt’s death in 1965, his egg and other collections were saved by David Wilson, then Secretary of the British Trust for Ornithology (BTO), for that organization (Clugston 2020; Clugston & Fuller 2021). For whatever reason Wilson decided to keep some of the material that Hewitt had regarded as “special” (Birkhead et al. 2022). Among the retained materials were parts of several scientifically valuable egg collections, including the four trays of lapwing eggs discussed here. Wilson knew for example, that the scientific value of
both Jourdain’s and Goodall’s lapwing eggs lay in their accompanying data slips. The four trays of lapwing eggs were kept intact by Wilson in the loft in his home until his death in 2020 (Clugston 2021), after which, Wilson’s colleague, David L. Clugston, passed them to the Alfred Denny Museum in the University of Sheffield, UK in 2021.

The main aim of this study is to provide a description of these unusual lapwing eggs and to discuss their scientific potential. In addition, I draw attention not only to the scientific value of museum egg collections, but also to the cultural value of such collections that can inform us of a past and almost forgotten aspect of the history of ornithology as a discipline.

**Description**

The four trays are shown in Figures 1–4, and in which I have numbered the clutches arbitrarily for identification purposes. I discuss the content of each tray briefly here (and in more detail in Appendix 1).

**Jourdain 1 (Figure 1)**

Twenty sets (clutches) of four eggs each, each with a small slip positioned with the eggs. The information on the slip in most cases comprises the date of collection and its location. Several eggs have Bynesian decay (see Byne 1899). There are loose slips (see Appendix 1) that probably relate to two of four clutches (3, 6, 9 and 10) with no card. Seven sets are from Settle, Yorkshire; two sets (at least) are from Friesland via a Dutch collector (see below). Dates of collection: 1901–1937.

**Jourdain 2 (Figure 2)**

Twenty sets, 19 of four and one of the three eggs. The data slips are as in Jourdain 1. Thirteen sets are from Settle, Yorkshire; one set is from Friesland via a Dutch collector. Dates of collection: 1902–1919.

**Goodall 1 (Figure 3)**

Twenty-five sets of four eggs each. All eggs are in good condition with no Bynesian decay. This tray includes a letter from Geo Jeffries of Benjamine Hotine “Fishmongers, Poulterers and Game Dealers, Leadenhall Market 23 June 1915” — from whom Goodall obtained lapwing eggs — with a penciled note, “Au.st [August] 27th 1915” presumably indicating when Goodall replied. Goodall’s data slips held in the margins of the tray, are written in ink on tiny, variably sized pieces (approximate 5 × 10 cm) of thin, translucent paper in a very fine cursive script. Because the paper is so translucent these slips are difficult to

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Figure 1. F. C. R. Jourdain’s tray 1 of aberrant Lapwing eggs. The tray is orientated with the handles at the bottom (as in all four of these images). Note that several eggs or clutches have Bynes “disease” (e.g. clutch 6 and the bottom left egg in clutch 19). For further details of the numbered clutches see text and Appendix 1.
photograph in a way that renders the text readily readable. Goodall was obsessive about recording details, many of which were highly repetitive, such as those for the lapwing eggs he obtained from Leadenhall Market (four sets in this tray). Goodall also signed his initials on each of his data slips. The data slips in this tray are in several hands; those written by Goodall himself are often extensive. The slips are tucked in the horizontal and vertical sides of the tray adjacent to the sets. However, in some cases it was possible to link a particular slip to a particular clutch only by finding something in the slip that matched the eggs. To demonstrate the problem: the slips for sets 3, 8 and 13 are all together above set 3. There are four clutches that the data slips refer to as being red, erythristic or as reddish, and one other that is also “reddish.” There are seven clutches that the data slips refer to variously as light types, blue or grey, blue faded grey type (see Appendix 1). Other eggs are distinctive as being dark, heavily blotched or finely freckled. Four sets were obtained via Leadenhall Market and two sets via a Dutch collector/dealer (see Discussion). Dates of collection occur fairly evenly between 1888–1921.

Goodall 2 (Figure 4)

Twenty-six sets, 10 of four eggs each, and 16 of three eggs each. Slips — as in Goodall 1 — but more difficult to link slips to sets as there are four sets of four slips for sets 2, 5, 8, 12; 3, 6, 9, 13; 15, 18, 22, 25; and 16, 19, 23, 26. There are seven sets that could be described at reddish; four of which are labelled as such and five with very pale blue/green ground colour and labeled as such (see Appendix 1): in set 5 there is one egg described on the slip as “spotless — very rare indeed.” Other eggs are distinctive as “smeary” (2), “large spots” (10), “finely freckled” (14), “café” (17). Eight sets obtained via Leadenhall Market; three from a Dutch collector/dealer (see Discussion). Dates of collection: fairly evenly between 1882–1930 (see Appendix 1).

Both the Jourdain and Goodall trays contain some lapwing eggs that had originally been obtained by two notable individuals: Tsjerd Geales de Vries of Friesland in the Netherlands, and F. G. Lupton in the UK.

De Vries (1879–1958) was an egg collector (and not a dealer) who lived in Leeuwarden, the capital of the Friesland province where the collecting of lapwing eggs was widespread. Well known locally, his nicknames were Tsjerd Fugeltsje (birdie) or Tsjerd Aai (egg). At his death his collection comprised around 9000 eggs of some 350 mainly Palearctic bird species that are now housed in the national museum Naturalis in Leiden (Sake P. Roodbergen, pers. comm.).

F. G. Lupton (1881–1970) was described by Cole and Trobe (2000: 152) as “a cabinet man”, meaning that he bought eggs from others rather than collecting them in the field himself. Lupton specialized in
collecting lapwing eggs, but also those of the common guillemot, and for both species acquired eggs of unusual appearance (Cole & Trobe 2000; Birkhead 2016, Birkhead et al. 2021).

On 10 September 1919, Lupton attended the 5th Annual Oological Dinner at Pagani’s Restaurant London (where Jourdain was also present), and showed:

(a) a set of four erythristic [red] lapwing’s eggs, taken near Settle, Yorkshire Ground colour very rich, but markings normal” and

(b) A clutch of four lapwing’s eggs, of the very rare cyanic [blue] form. Mr Lupton remarked that this was the only set he had ever obtained from among over 450,000 Lapwing’s eggs inspected in 24 years, and that it appears to be rarer than the erythristic phase. Taken near Settle” (Anon 1920: 313).

Cole and Trobe (2000: 152–3) comment on this report, saying that Lupton’s observations on these erythristic and cyanic clutches “verged on the incredible, for he claimed that this was the only cyanic set he had obtained from some 450,000 lapwings eggs [i.e. c110,000 clutches] inspected over a period of some 25 years. The most likely explanation for this ‘statistic’ is that Lupton had access to large numbers of plovers” eggs collected for culinary purposes’. This seems likely since among his belongings found after his death were two photographs attached to a blackboard with, on the first (Figure 5(a)), the words: ‘William Frew Clark [presumably a local collector of Lapwing eggs] “Collection of Plover’s (sic) eggs for the London market 1895 to 1925 — around 35 thousand eggs a year. Collected over a radius of 25 sq. miles. Settle District. Hence, FGL’s specialized collection in eggs of the ‘Peewee’”. The second photograph (Figure 5(b)) has the words: “Testing the freshness of the eggs of the Plover under the water test – i.e. (must come to rest at the bottom of the water-container)”.

It appears that Lupton disposed of some or all of his collection of lapwing eggs some time before 1920, since set 26 in Goodall 2 states: “Ex-coll F. G. Lupton 11 February 1920” meaning that it was once part of Lupton’s collection, suggesting that Goodall may have bought this set from Lupton on that date. That particular set was originally obtained “near Settle” in 1907, which may have been when Lupton obtained it. There are other slips in the Goodall trays that mention Lupton: (i) Goodall 1, set 9, a clutch of four blue eggs taken near
W. Clapham 21 April 1900 ‘by girl, blown by FGL; (ii) Goodall 1 set 13 comprising 4 pink/brown eggs owned by Lupton; (iii) Goodall 1 set 20, a clutch of greenish (? Distinctive) eggs obtained in Yorkshire on 28/04/1903 and “blown by F.G. L”; and (iv) Goodall 2 set 3 comprising three eggs “approaching in type the dark erythristic” originally obtained April 1900 near Settle. This set is “ex collection Reverend Crofton [?] Vicar of Giggleswick” [which is adjacent to Settle] and “ex coll: F G Lupton 11/02/1920” suggesting that this is when Goodall obtained the set, and hence when Lupton sold at least some of his lapwing eggs.

Jourdain’s trays also contain eggs once owned by Lupton, and in an undated letter to Vivian Hewitt, Jourdain states, “I forgot to say that my lapwing eggs alone include all the Lupton Collections, which I bought for as far as I remember £130 or £140 besides others from other sources” (correspondence in the Hewitt Papers). However, the data slips in the Jourdain trays are much less detailed than those of Goodall, and none specifically mention Lupton, even though 6 of 20 clutches in Jourdain Tray 1 and 13 of 20 clutches in Jourdain Tray 2 are identified as being from Settle where Lupton obtained many of his eggs (Appendix 1). It is also clear that Jourdain did not own “all the Lupton collection”, since the data slips in the Goodall trays show that he owned several Lupton sets (above).

For those like Goodall, purchasing lapwing eggs from Leadenhall Market, London, oologists often had to infer that eggs were part of the same clutch from the same female from their proximity in the packaging and from their appearance. This was relatively easy for eggs that were particularly distinctive and/or very rare (e.g. red or blue eggs). Oologists also had to be aware that the eggs of black-headed gulls Larus ridibundus and waders, such as the red-shank Tringa totanus were sometimes sold as lapwing eggs (Newton 1896: 504–5; Cott 1953,1954: 662).

**Discussion**

Although egg collecting is now illegal in the UK, and the collecting of lapwing eggs is illegal in the Netherlands, the eggs accumulated by oologists in the past and now residing, for the most part in public museums, constitute a valuable scientific resource (Mason & Pfitzner 2020; McGowan 2021). The collecting of birds’ eggs and study skins can be considered as part of the “observation
phase” that characterises science, in this case, ornithology (Birkhead 2022).

Egg collecting became illegal in the UK until 1954, but as early as 1911, oology became divorced from mainstream ornithology with opinions deeply divided regarding the ethics and scientific value of collecting. Oologists themselves fell into two groups: those that were scientifically motivated and those that were mere egg collectors (Cole 2016). Science justified continued collecting, even though as early as the; 1890s the great Victorian ornithologist Alfred Newton, had made it clear that eggs were of little scientific value in terms of resolving the main ornithological question of the day — the classification of birds (Newton 1896).

Since then however, museum egg collections have played an important role in scientific ornithology, including the issues surrounding egg-shell thinning caused by pesticides and industrial pollution, such as acid rain (Green 1998; McGowan 2021). The single most important factor in the use of museum collections is the data associated with the eggs, and

Figure 5. Two photographs of blackboards and photographs of lapwing collecting in northern England c 1935, from the estate of F. G. Lupton (courtesy V. Petersen).
in this respect, the two collectors discussed here, Jourdain and Goodall, were both exemplary. Jourdain in particular was the epitomy of the scientific ornithologist, meticulous in his record keeping, and he used his oological knowledge to provide details of both the breeding biology and geographic distributions of birds for the now classic Handbook of British Birds published between 1938–1941 (Witherby et al. 1938–1941, see Mearns & Mearns 2002). As is clear from the present study, Goodall also maintained meticulous records of his egg collections, although unlike Jourdain, he does not seem to have put his oological knowledge to further use. Nonetheless, his enthusiasm for unusually coloured eggs of the lapwing (and other species: see Jourdain & Borrer 1914), can now be used to address particular biological questions.

Atypically coloured clutches are, by definition, rare. The normal colour and maculation of lapwing eggs has undoubtedly evolved to minimize the risk of predation by camouflaging the eggs against the ground and nest in which they are laid and incubated (Figure 6). Eggs that deviate from this, and cyanic eggs in particular because they are so conspicuous, are likely to be especially vulnerable to predation by visually hunting predators like corvids (Tinbergen et al. 1962; Montevecchi 1974). It follows that for natural selection to favour egg camouflage (or egg mimicry, as in brood parasites) egg colour and maculation must have a genetic basis, as has been verified in several species (Collias 1993 and references therein; Wragg et al. 2013; Liu et al. 2021).

Erythristic and cyanic eggs may be the result of an environmental effect such as stress or disease. It is

![Figure 6. Lapwing eggs. Top: three normal lapwing clutches (courtesy Sake P. Roodenberg); middle, three cyanistic clutches: from l-r: Jourdain 1,18; Jourdain 1,1; Jourdain 1,5), bottom, three erythristic clutches: from l-r: Jourdain 1,9; Jourdain 1, 14; Goodall 1, 14.](image-url)
known, for example, that stress can result in changes in egg shape and disrupt the application of pigment to the eggshell (Birkhead et al. 2021). Jourdain (1912a) suggested that cynthiaic eggs may be the result of only the first layer of ground colour being deposited on the eggshell within the uterus, and the egg laid prematurely, before the addition of subsequent layers that would provide the normal ground colour and maculation. Consistent with this, Jourdain (1912a) noted that the shells of cynthiaic eggs are often defective. The premature laying or disruption of the deposition of ground colours, may be a result of stress (an environmental effect), especially if there is only a single abnormally coloured egg in the clutch. In contrast, an entire clutch of aberrantly coloured eggs — which as Congreve (1956) states, are much less common — may imply a genetic basis. Similarly, if the same individual female produces aberrantly coloured eggs in successive clutches and or over successive years, as in the case of red guillemot eggs (Birkhead & Montgomerie 2018), it seems likely (but not unequivocally demonstrated) that the unusual egg colours have a genetic basis. Assuming that Goodall and Jourdain did not ignore lapwing clutches with a single aberrantly coloured egg, entire clutches of aberrantly coloured eggs suggest a genetic rather than environmental effect. Even though lapwings tend to return to breed in the same local area in successive years (Thomson et al. 1994) there seem to have been relatively few instances where collectors obtained aberrantly-coloured clutches from (what was assumed to be) the same female in different years, and hence to infer that aberrantly-coloured eggs are the result of an individual female (possibly genetic) effect.

At a qualitative level it is clear that entire clutches comprising cyanic or erythristic eggs are very rare in the lapwing —possibly, very rare, as suggested by Lupton’s statement (above) that one cyanic clutch was the only one from around 110,000 clutches (see also Cole 2020). I asked an experienced Lapwing egg harvester2 in the Netherlands about the frequency of aberrantly coloured eggs and he confirmed that having examined around 1000 clutches over many years that they were “extremely rare” and indeed had never seen an entire clutch of aberrantly coloured eggs like those in Figures 1–4. He also confirmed that as with Jourdain, Goodall and Lupton, no one in the Netherlands recorded exactly what proportion of clutches contained or comprised aberrantly coloured eggs. Overall, he felt: (i) that around 0.5% clutches contained one aberrantly coloured egg, and (ii) that these were more common prior to 2000 when land-use and lapwing habitat were different, suggesting that environmental factors may have been important in creating aberrantly coloured eggs (Sake P. Roodbergen, pers. comm.).

The existence of several erythristic and cyanic clutches in the four trays of lapwing eggs discussed here, provides the opportunity to establish (with a biologically useful sample size) —using DNA extracted from either the eggshell or egg membrane (e.g. Trimbos et al. 2009) — whether aberrantly coloured lapwing eggs have a genetic basis. In doing this, more may be discovered about the poorly known process of colour deposition in birds; eggs (Birkhead 2016). As Winter (1996) has said: “Clinicians studying [human] malformation syndromes are often admonished with the phrase ‘these conditions are as rare as hen’s teeth’, but biologists will appreciate the insights gained from a hen with teeth”.

Notes
1. https://www.bankofengland.co.uk/monetary-policy/inflation/inflation-calculator.
2. The collecting of lapwing eggs has been illegal in the Netherlands since 2015.

Acknowledgements
I am extremely grateful to D. L. Clugston for donating Hewitt's lapwing eggs to the Alfred Denny Museum, and also for valuable discussion. I am grateful to Stephen Menzie (editor of British Birds) and Jon Slate for help with references. Thanks also to Verity Peterson and Sake P. Roodbergen for helpful comments and for permission to use their photographs. Sincere thanks to R. Montgomerie for helping with the photographs and constructive suggestions on the manuscript.

Disclosure statement
No potential conflict of interest was reported by the author(s).

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Appendix 1

This is a summary of the contents of each tray including the number of eggs in each set, set marks, collection location or other acquisition details and date of collection/acquisition; specific features of the eggs (including signs of Bynesian decay, indicated by *), any other damage, putative or what appears to be a combination of eggs from different clutches (indicated by ‘different clutch?’).
FCRJ = Jourdain, JMG = Goodall, My [TRB] annotations in square brackets. Note that the handwriting on some slips is sometimes illegible.

**Jourdain tray 1**

Twenty sets of 4 eggs each, most accompanied by information written on a small card placed with the set.

1. 34/4: 3 very light blue/green, 1 beige [TRB: different clutch?] Settle 20/04/1911.
2. 95/4: 4 dark banded on beige, one damaged, Settle 20/04/1911.
3. No card: very light blue/green*.
4. 38/4 rich chestnut* Settle 07/04/1909.
5. c/4 pale grey, fine spots; Hinchem, Norfolk 23/05/1901 FGG [TRB: unknown] 2x VHC coll.
6. No card, heavily capped*.
7. 14/4 ‘red’ pinkish, one distinct with pale penciling; Bolton by Bowland, Yorks 12/04/1919.
8. 3(4), Sk... [TRB: illegible] 28/04/1933, Finland Tde V. Green.
9. No card, orange-red*.
10. No card, khaki + some pencil markings.
11. AI/4 Clitheroe 17/04/1910 ‘W’*.
12. 43/4 K.... [TRB: illegible, Dutch?] NB 10/04/1902 KK [TRB: presumably Kenneth Kennedy mention in Goodall Tray 1: 13 – see below]; pale pinkish very elongate.
13. 29/4 Settle, 05/45/1910 pale green.
14. 18/4 Dalehead,00/04/1901 ‘C’.
15. 20/4 Bolton by Bowland 02/05/1927 ET*.
16. 67/4 Settle 06/05/1900 very pale green, one malformed egg.
17. 79/4 Settle 06/04/1904 Very dark olive.
18. 16/4 Waddington 02/05/1901 JH [TRB: unknown]
19. 83/4 Settle, Yorks 14/04/1902, one odd, elongate egg and one*.
20. 40/5 Mitton (?) Yorks 10/04/1911 W.

NB One loose label 19/04/1937 Friesland (?) TdeV [TRB: Tsjeard Geales de Vries, see text].

NB Another loose label 16/04/1934 KR Friesland TdeV.

These probably relate to two of four clutches above (3, 6, 9 and 10) with no card.

**Jourdain Tray 2**

1. 15/4 Settle 12/04/1903 Beige all 4 with distinctive pale band.
2. 31/4 Settle 21/04/1919 Beige and distinctive large spots.
3. 13/4 Root (?) Moor 23/04/1909 kahki; EB. [TRB: unknown].
4. 17/4 Dinsaly (?) pale beige, blotched; L; 04/04/1894, W. [TRB: meaning?]
5. 12/4 Barhall Eaves, Y 06/05/1903 pale, heavily marked with fine marking, TA. [TRB: unknown].
6. 66/4 Settle 26/04/1918 pale olive very fine penciling.
7. 62/4 Settle 11/04/1910 very dark heavily blotched olive brown.
8. No card [TRB: the eggs are red/pink].
9. 32/4 Settle 06/04/1915 dark blotched*.
10. 68/4 Settle, Yorks 16/04/1907, olive, one lower half different, two*.
11. 65/4 name (Vanellus vanellus) only, two banded, lower (pointed) half distinct*..
12. 45/4 Settle 03/04/1913 very pale green with speckles, one*.
13. 69/4 Settle 19/04/1916 very pale green with blotches.
14. no card; pale olive — 3 with c/3 00/04/1921 GT [TRB: unknown], so one added.
15. 7/4 Settle 03/05/1902, olive un-pointed shape.
16. 42/4 Settle, Yorks 10/04/1913.
17. 39/4 Settle 08/04/1915.
18. c/3 Friesland red TdeV.
19. 72/4 Settle 11/04/1906, [TRB: pointed but very short, distinctive shape].
20. 78/4 Settle 16/04/1902, [TRB: four rather different eggs].

**Goodall Tray 1** (his tray number 185)

All eggs in good condition, no Bynes. All sets are of 4 eggs. Tray includes a letter from Geo Jeffries of Benhamine Hotine Fishmongers, Poulterers and Game Dealers, Leadenhall Market 23 June 1915 with a penciled note ‘Au..st [TRB: August?] 27th 1915’ presumably indicating when he replied.

Goodall’s trays, often contain extensive notes in different hands (or typed), tucked in the horizontal and vertical sides, so sometimes linking data with clutch is not obvious (see text).

1. Green Plover. Head of Holland, Orkney. John R Gunn. 26th April 1894, No. of eggs in set 4.

2. Rich olive brown heavily blotched: In JMG’s hand: ‘¼ Lapwing Leadenhall Market London EC [TRB: unknown] April 24 1906: ‘As these characteristically similar and well blotched eggs were unpacked in close proximity to each other from one package or box of eggs in the market it is reasonably safe to assume that they are all from the same bird and comprise a full clutch’.

3. 4 pale blue/green eggs. In JMG’s hand: ‘Leadenhall 07/04/1910 (as these (of very unusual type).. four eggs Leadenhall Market and rest of text as in 2 above).03/01/1929. [TRB: I assume this note refers to this clutch from “blue” or “grey” type].

4. 4 speckled eggs. In JMG’s hand: ‘Bembridge, Isle of Wight 09/04/1916 (5/7,1/4, 9/4/16 (?). Collected near Ducker’s Wall. This is of the FINELY FRECKLED type. A set of 4 almost identical in type was taken in the same district on 11/04/1904. [TRB: I assume this note refers to this clutch from ‘FINELY FRECKLED type’].

5. 9/4 Lapwing 4 eggs North Forfarshire 21/04/1898; dark olive blotched.

6. ¼ Lapwing ‘variety’ Wenselydale Yorks. A. Wilson [TRB: unknown] 29/04/1916. Olive with uniform small even blotching. On verso: ‘Smeary greenish all one colour eggs’.

7. ¼ Lapwing found near Clitheroe Lancashire 18/04/1917 set match by R H Wrigley [TRB: unknown and not mentioned in Cole & Trobe 2000, 2011].

8. In JMG’s hand; ‘Leadenhall Market London April 3rd 1905. As these four beautiful eggs were unpacked together .. it is practically safe to assume that all are from the same bird and comprise a full clutch. The set constitutes a very fine perfect specimen of the RED or ERYTHRISTIC type. The eggs were collected at Northington Cumberland and sent from that town to Leadenhall Market’.

9. ¼ Lapwing “9/4” W. Clapham, Yorks, by girl, blown by F.G.L. [TRB: Lupton] “Blue ground, black speckles 21/04/1900.

10. Four very dark olive eggs. Quanerness Orkney taken by John Gunur [TRB:?] 25 April 1888.

11. 7/4/09 collected by JHL Martock Somerset. Pale grey/green and speckled.

12. Note in JMG’s hand says: ‘See correspondence [TRB: does this refer to letter in tray?] 14/04/1915 collected at Leek, Staffordshire; Leadenhall Market in one lot “as taken” by collector who had been requested to keep clutches of rare types separate and intact. This type of Red Lapwing may perhaps be considered the richest of any so far examined by writer. ½ & 1/1 perhaps from same bird – certainly from same source/exit [TRB:?] JMG.

13. 4 pale pink/brown eggs. The note states: ‘I am sorry I cannot find my old data book at present so cannot give date for all in the meantimes if not destroyed I may find it sometime. ¼ Lapwing Forfarshire 2 May 1901’. Then in JMG’s hand: Third set from same pair of birds by Mr Kenneth Kennedy near Kirriemuir [TRB: Angus, Scotland] NB The female bird laid 4 sets in all during 1901 b (1/4, ¼ (F.G.L.) [TRB: indicating that Lupton obtained this clutch], ¼, 1/3. The first, third and last sets are here shown together, the second set of 4 eggs is actually in possession of Mr F.G. Lupton of Accrington who secured it from Mr Stonham to whom it was ceded by KK. J. M. Goodall 14/01/1924 [TRB: it is not clear where all three clutches are].
14. de Vries 24-4-1917 n’red variety’. Note by JMG: ‘Received in Bembridge on January 8 1927 from Mr Vries of Amsterdam in exchange for falcons and waders. See our correspondence.’ Then Tjeerd Gs de Vries sheet: red variety.

15. Slip from de Vries to which JMG has attached his slip, and in JMG’s hand: ‘Friesland 22/04/1921 Grey-greenish Variety. Received here in Bembridge on 08/01/1927 from Mr Vries in exchange. 12/1/1927.

16. Lapwing. Var. Bashall Eaves [Ribble, now Lancs]. Yorks. 23/04/1916.

17. Lapwing Light variety. From the collection of T/ P A. Metcalfe, Pickering Yorkshire. Note added in pencil: Late T A Metcalfe collection [TRB: not mentioned in Cole & Trobe 2000,2011] purchased xxxx [illegible] Oct 1923.

18. In pencil scrawled on recto ‘Red’. Verso: Collected by KK, North Yorkshire 06/04/1911 ‘Bird nested again in a field on opposite side of road, clutch 4 & 3 found’.

19. Lapwing, 4 eggs light type 26/04/1895 Corfe Castle, Dorset.

20. ¼ Lapwing XXX [TRB: illegible] Bank, Yorks. 28/04/1903 blown by F.G. L. [Lupton].

21. In JMG’s hand: ‘¼ Lapwing near Bembridge 09/04/1931: very dark, stumpy eggs, fresh JMG’.

22. Lapwing. North Forfar 06/04/07. Dusky olive, distinctive pale circle at blunt pole.

23. In JMG’s hand: ‘¼ Leadenhall Market 23/04/1909, unpacked together … etc: “Blue” (FADED) or “GREY” type. Rare.

24. ¼ Lapwing Mythr Lancs 15/04/1904. 25. 05/05/1891. Mary Knoll, Ludlow. Mark 350.

**Goodall Tray 2** (his label 524 on glass top, but 165 on drawer). In this tray it is more difficult to link cards with clutches since 8 clutches x 4, so 4 cards together at top and 4 at the bottom of the tray. For example, in the gap above ‘2’ there are four sets of notes, relating to sets 2,5, 8 and 12, and in the gap above 26 there are similarly four sets of notes relating to sets 26, 23, 19 and 16, and in gap adjacent to 14 there are three slips, but only two possible sets, so here we have one ‘extra’ slip’ (14a). Note also that Goodall does not seem averse to combining eggs, sometimes from several years apart, to make up a clutch from what he assumes to be the same female. And while this is not very ‘scientific’, he at least documents what he has done. Nonetheless, anyone using Goodall’s clutches for scientific research should be aware of this.

1. 4 eggs pale olive in colour. Morton Palms, Darlington. 7 April ’99 (1899). [TRB:]

2. 3 eggs: In JMG’s hand: ‘Rare Smeary Type’ 1/3 (1/2 1/1) Leadenhall Market 2, 06/05/1909: 1. 26/04/1911 “Rare smearable type”. These are the only 3 eggs collected of this type – as the type apparently is a good one and not “freakish” I have made up the ½ +1 into a clutch of 3 as all almost assuredly are the product of the same bird. JMG.’ [TRB: my identification of this set is from a process of elimination from 5, 8 and 12 since the eggs are not —to me— noticeably ‘smeary’].

3. 3 eggs. In JMG’s hand: ‘An interesting set approaching in type the “dark erythristic” JMG’. Then in different hand: c/3 Lapwing April 1900 near Settle, Yorks. Coll” Rev Crofton (?) vicar of Giggleswick … illegible coll: illegible signature, then underneath in JMG’s hand: ‘FG LUPTON 11/02/20’.

4. 4 eggs: In JMG’s hand: ’¼ Lapwing Vanellus vulgaris (sic) Collected by Captain John Stares and Liet (sic) S. A. Davies in the Upper Muonio River, Finland (68° 25 north Lat:) in June 1905. Particulars in the Ibis for January 1905 … where Lieut Davies writes concerning this clutch — “Vanellus vulgaris [sic] Lapwing” “Very rare and unknown to the Finns generally. I obtained one clutch of eggs however from 68° 25 N Lat. which were brought in by a Finn who accurately described the bird and thought it a great rarity!”. These eggs were most kindly presented to me by Capt John Stares, JMG 16.10.22”. [TRB: see Davies 1905].

5. 3 eggs. In JMG’s hand: ’1/3 Lapwing Leadenhall Market London April 12 th 1910. Small clean xxxform [TRB: partially illegible] eggs of the ‘greenish grey’ “type. One egg spotless - very rare indeed. As these 3 eggs were unpacked at the same time and in close proximity to each other …it is reasonably safe to assume in view of their appearance that they are the product of the same bird and comprise a clutch of 3 or 3 of the 4 eggs consisting the full clutch. [TRB: initials LHM (Leadenhall Market) on each egg in pencil].
6. 3 eggs. In JMG’s hand: ‘1/3 Lapwing Leaden Hall Market, London. April 19th 1906. “Stumpy, small eggs of the ‘grey’ or ‘stone’ type. Unusual and rare. As these three eggs were all unpacked at the same time in closed proximity to each other from a package or box of eggs as received in the market, it is reasonably safe to assume (from their appearance especially) that they are product of same bird, and comprising [? illegible] 3 of the 4 eggs forming the full clutch.

7. 4 eggs. Lapwing 4cl. 6. (June?) 1882. [TRB: and in pencil:] Brandon Norfolk

8. 3 eggs. From de Vries (and ‘red type’). In JMG’s hand: ‘1/3 Lapwing Friesland, Holland April 18 1922, 22A. Red variety. Received here in Bembridge on January 8 1927 from Mr Vries of Amsterdam in exchange for falcons. See our correspondence.

9. 3 eggs. In JMG’s hand: 1/3 Lapwing (1/3) Leadenhall Market London May 13th 1914 S/m ½ 13.5.14. 1/1 Lapwing Leadenhall Market London April 15th 1905. These two lots are placed together to make up a 1/3 set. These eggs practically constitute an equal set to the 1/3 secured in the market 2.6.03 and possibly the whole of the 6 eggs [TRB: does he mean includes set 13, below, which are very similar in colour, albeit more elongated?] were laid by the same bird. In the set 2.6.03 (a true 3) one egg is slightly odd same as the 1/1 in this made up set is!! JMG’.

10. 4 eggs. In JMG’s hand: ‘1/4 Lapwing. Bembridge Isle of Wight April 17th 1904. Collected personally. Fine set: large spots: eggs nearly fresh. JMG’.

11. 4 eggs. In JMG’s hand: ‘1/4 Lapwing. Thursley. Surrey may 16th 1915. Nest on fringe of small swamp near the “Lion’s Mouth” Eggs fresh & of the dull rare type. JMG.’

12. 3 eggs. (1/3) Leadenhall Market London. April 19th 1912. 1/1 Lapwing Leadenhall Market London July 3 [TRB: illegible] 1915. Received in the xxxx [TRB: illegible] beginning of May and sent to me by egg dealer Jeffries.

13. 3 eggs. In JMG’s hand: ‘ 1/2 Lapwing (1/3) Leadenhall Market London May 13th 1914. 1/1 Lapwing Leadenhall Market London April 15th 1905. These two lots are placed together to make up a 1/3 set. These eggs practically constitute an equal set to the 1/3 secured in the market 2.6.03 and possibly the whole of the 6 eggs [TRB: i.e. this set, and those in set 13] were laid by the same bird. In the set 2.6.03 (a true 3) [TRB: ? set 13] one egg is slightly odd same as the 1/1 in this made up set is!!’. [TRB: presumably JMG is referring to set 9]. 3 eggs. see 8: the data card refers to both.

14. 4 eggs. There are 3 slips (a, b, c) adjacent to this set.

(a) Slip (in JMG’s hand) says: ‘4 eggs: ¼ Bembridge 11/04/1904. Nest on Ducker’s Wall. Eggs very finely freckled [which matches the eggs in this set] and fresh. Illegible writing on eggs, but looks like 1904, so I think these are the eggs in 14.

(b) says 3 eggs collected North Forfarshire 11/05/1901 by KK. On back in pencil ‘Red’.

(c) Slip says 3 eggs, and in JMG’s hand: ‘Very fine variety of the Red or Erythristic type (so not this slip) and note states Leadenhall market 06/05/1904 and eggs were Dutch, from Friesland. [TRB: this slip may refer to set 16 which are indeed a reddish colour and dated 1904].

15. 3 eggs. The slip in JMG’s hand states: ‘Red or Erythristic’ [TRB: and these eggs are red, or rather pinkish]. From Leadenhall Market 2 June ‘1903 and unpacked together so assumed to be from the same female ... ‘These eggs arrived in the market in the beginning of May and were reserved for me by the egg dealer until I was able call for them on date indicated. JMG’.

16. 3 red eggs. No slip? Written on the eggs: May 1904. [TRB: I think the slip for this set is 14c (above)].

17. 4 eggs. In JMG’s hand: ‘1/4 Lapwing. Farley Mount, Hants. June 2nd 1925. Eggs fresh: small & “stumpy”. An interesting “Café” set. JMG. In company of Captain Stares. [TRB: see Davies 1905].
18. 3 eggs. A printed ‘22’ on each egg identifies them as from de Vries, Friesland: ‘sign 22’ 14/04/1922.

19. 3 eggs. 1/3 Lapwing (red variety) Found on 23/04/1921 near Büttenpost, Friesland, by U. Jorritsma [TRB: name not known to Sake P. Roodbergen, pers. comm. 15/05/2021]. No incubation.’

20. 4 eggs. In JMG’s hand: ‘¼ Lapwing. Near Blading [TRB: illegible] 09/04/1930. Collected on the marsh between St Helens and Brading [TRB: illegible]. Eggs of a very light greenish ground colour. JMG’.

21. 4 eggs. ¼ Lapwing “1/5” (suggesting that this was a clutch of 5, and ‘1/5 written on 3 of the eggs) Wigglesworth, Yorks 28 April 1900.

22. 3 eggs. Identified by colour on slip (in JMG’s hand): “ Bluish green type” 1/3 Lapwing

Leadenhall Market London 05/04/1910 .. unpacked together .. etc.’.

23. 3 eggs. In JMG’s hand: ‘1/3 Lapwing Leadenhall Market April 20th 1905. ‘Greenish” rare type: unpacked together .. etc [TRB: text as in all other Goodall sets from Leadenhall Market].

24. 4 eggs. Green Plover 11/04/1901. B4. A. Metcalfe, Beacon Cottage, Pickering. B4 written in pencil on each egg.

25. 3 eggs. 1/3 Lapwing. Nr Settle. Yorks. 08/05/1902. Yellow in ground colour.

26. c/3 Lapwing April 1907 near Settle. Yorks. Ex-coll F G Lupton. 11/02/1920.