The journal of the flagship *Gelderland* – dodo and other birds on Mauritius 1601

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ABSTRACT: The Dutch discovery of Mauritius in 1598 set a precedent for visiting fleets to replenish supplies via trading routes to the East Indies. A fleet, under Admiral Wolphert Harmensz in the flagship *Gelderland*, anchored off Black River Bay, Mauritius, in 1601. On board were at least two artists who illustrated a journal of the voyage and, contained within the journal, are illustrations of dodos and other extinct Mauritian birds. These drawings constitute the only known illustrations of some of these extinct species, and provide important evidence about their external appearance. My examination of the bird illustrations reveals further hidden pencil sketches beneath the finished inks and provides extra information about morphology. The drawings were considered anonymous but the drawing technique used by shipmate Joris Joostensz Laerle is very similar to the style used in most of the bird drawings and I suggest that he was the principal artist involved: a second, unidentified artist’s contribution is minimal.

KEY WORDS: Dutch East India Company – Wolphert Harmensz – extinct birds – *Raphus* – Joris Joostensz Laerle

INTRODUCTION

Navigators had been aware of the Mascarene Islands (Mauritius, Reunion and Rodrigues) from at least the fifteenth century (North-Coombes, 1980). These earliest mariners, however, never settled or, as far as is known, left any documented record other than maps about the islands. Encouraged by the prospect of overseas trade, it was not until small company-funded Dutch fleets made their way across the Indian Ocean that a documented history began.

Funded by the companies, a Dutch fleet led by Admiral Wolfert Harmensz (Harmenszoon) in the flagship *Gelderland* anchored off Mauritius in the autumn of 1601 (Moree, 1998). Importantly, a two-volume journal was kept describing this voyage and illustrating the animals they encountered. Included in the journal are many ink drawings and maps; the drawings are particularly significant since they represent the only known illustrations of dodos and other Mauritian endemic birds drawn unequivocally from live or recently dead specimens. The Dutch Linschoten Society has recently published the journal in its entirety (Moree, 2001).

My examination of the original journal during a visit to the Algemeen Rijksarchief in The Hague led to the discovery of further unrecorded dodo drawings and very important morphological details about the other, illustrated, endemic birds. These constitute preliminary sketches in pencil under partially completed and fully finished ink drawings. It was also apparent that at least two artists were responsible for the pictures.

The aims of this paper are to reproduce exact copies of the original pencil sketches that underlie the finished ink drawings, and to provide, where possible, a comparison with contemporary works and skeletal remains of the relevant species. Supporting evidence about the identity of one of the artists will also be discussed.
**GELDERLAND**

Extensive overseas trading by the Portuguese had been going on for more than a century, yet so secretive were they about their trade routes that few records were ever made available or have since been discovered (Wissen, 1995; Moree, 1998). The Dutch fleets, under pressure from the States-General, were united to form the Dutch East India Company (Verenigde Oost-Indische Compagnie, VOC), to make them more competitive against the Portuguese (Moree, 1996, 1998).

Vast distances encompassing two oceans had to be navigated. Therefore staging posts, to allow replenishment of supplies, were established by the Dutch at the Cape of Good Hope, southwest Madagascar and Mauritius (Wissen, 1995; Moree, 1996, 1998). Under Admiral Jacob Corneliszoon van Neck, in the flagship *Mauritius*, a fleet of eight ships (including *Gelderland*) set sail from Texel Roads on 1 May 1598 bound for the Moluccas (Moree, 1998). After becoming separated in a storm, Vice-Admiral Wybrand Warwyck arrived on the southeast coast of Mauritius (then known as *Isla do Cerne*, Swan Island) on 17 September 1598 (Moree, 1998). The island was renamed Mauritius in honour of stadholder Maurits, son of William of Orange (Wissen, 1995) and the ships replenished their larders with fresh game and water. Warwyck then joined van Neck in Bantam and the fleet returned to The Netherlands (van Neck in July 1599, and Warwyck in September 1600). The expedition was considered an outstanding success, and within two years the journal of van Neck was published in Dutch, English, French and German (Wissen, 1995; Moree, 1998).

Another fleet, hurriedly funded and made ready under Admiral Wolfert Harmenszoon in the flagship *Gelderland*, set sail from Texel Roads on 23 April 1601 and reached the Moluccas later that year (Moree, 1998). Harmenszoon had company orders to visit the island of Mauritius, and on its return across the Indian Ocean the fleet sailed south of Rodrigues Island in September 1601. The first detailed profile of this island (then known as Thermis Island) was penned and is included in the journal.\(^1\) The fleet arrived at Black River Bay\(^2\) on the southeast coast of Mauritius and stayed from 27 September until 20 October 1601, returning to The Netherlands in April 1603 (Moree, 1998).

Like van Neck before, the fleet replenished its supplies on Mauritius but unlike any other Dutch fleet that visited the Mascarenes before or since, on board were at least two artists, one professionally trained and of notably high standard.

**THE JOURNAL OF GELDERLAND**

The two-volume *Gelderland* journal\(^3\) was written between 22 April 1601 and 14 April 1603 and contains a large collection of pencil drawings, ink drawings and watercolours. The vellum-bound journal measures 31.5×21cm and contains 144 numbered sheets of parchment. The subjects of the illustrations (many of which are in colour) include vases, landfalls such as the Cape of Good Hope, Mauritius, Banda and the other Moluccan Islands, two sailors, fish including tuna, hawksbill turtles, dolphins and birds, and there are numerous maps. The first volume, which is inscribed “Dorscher 1598” on the front cover, includes seven pages of bird drawings and also contains a written account of the voyage. Simon Jacobszoon, the under-merchant and secretary of *Gelderland*, probably wrote the account, with a few added passages by Admiral Harmenszoon (Hoof, 1995). The second volume, which has “Mayer 1598” on the front cover, contains only drawings, including some repetition of illustrations.
from the first volume. The volumes were originally housed in the library of the Remonstrant Brotherhood in Rotterdam and were donated to Dutch national archives in 1872 (Hoof, 1995; Moree, 2001).

THE DRAWINGS

The first bird drawing, folio 63r is the Poule Rouge or van den Broecke’s Red Rail¹, *Aphanapteryx bonasia* (Figure 1). This bird appears to have been clubbed and stunned or killed, then laid on its side and drawn, first in pencil, and then finished in ink. A second pencil drawing depicts the head and neck. The underlying pencil drawing (Figure 2) indicates a greater depth of bill plus a visible shoulder of the wing. These features correspond with the bill depth of the only known, complete, articulated skeletal specimen housed in the Mauritius Institute and also with the wing morphology of the contemporary illustrations of Roelandt Savery and Dirck Quade van Ravesteyn. The finished ink sketch omits both of these features.

On folio 64r and the facing folio 63v, the Dodo, *Raphus cucullatus*, is depicted. Two dodos are illustrated, one being drawn over the other (Figure 3). The dodo at the top of the
page is best viewed horizontally. This bird has been stunned or killed and is laid out on a flat surface; only the head and bill are finished in ink. The underlying pencil sketch reveals the bulk of the body and a leg that is twisted up from under the body at an acute angle (Figure 4). The second bird, often termed the running dodo (Oudemans, 1917; Tuijn, 1969; Staub, 1993), extends onto folio 63v, and is finished in pencil and partially covers the first bird. Confusion also exists as to which pair of legs belongs to which head. The reproductions in Pitot (1914) and Staub (1993) reconstruct the illustrations in the wrong order (Figures 5 and 6). Folios 64v and 65r contain no fewer than four completed dodos (Figures 7 and 9). An unfinished bird in pencil that includes the wing, body, tail and legs, one complete and one incomplete (Figure 8) separates the dodos on the left-hand page. An unfinished rump and tail in pencil (Figure 11) separate the birds on the right and, more importantly, the dodo depicted at the top right obscures a complete head drawing (Figure 10).
The dodos are depicted with an unusual upright stance that appears to match the mechanics of the long leg bones and angle of the femur (Kitchener, 1993). They also do not correspond to early reports by travellers that dodos were so fat that their bellies dragged along the ground (Strickland and Melville, 1848). The last authenticated account of living dodos, on a still undetermined islet, stems from a report made in February 1662. Volkert Evertsz, a survivor of the shipwrecked crew of Arnhem, described an encounter with dodos after making his way ashore. Evertsz had made it to the mainland but walked back across the lagoon to hunt with four others and remarked (Wissen, 1995):

We also found here many wild goats and all kinds of birds which are not at all timid, perhaps since they are not used to seeing people who hunt them. They stood quite still and watched us and allowed us to approach
them. Among them were the birds known to the Indians as Dodderse, which are larger than geese, but unable to fly, having only little stumps of wings, but are fast runners. One party of us would chase them so that they ran towards the other party, who grabbed them. When we had one tightly gripped around the leg it would cry out, then others would come to its aid and could be caught as well.

Annual fat and thin cycles exhibited by dodos are well-documented (Strickland and Melville, 1848; Oudemans, 1917), and this accurate account, supported by dod illustrations from the journal, certainly contradicts descriptions of dodos being so gross that they could hardly run.

The head drawing (Figure 3), in particular, demonstrates the enormous bill of the species and the long hooked tip. The dodo has been described as being entirely frugivorous (Livezey, 1993), but why it had such an undoubtedly large, hooked bill remains unknown.
The Dutch Pigeon, Pigeon Hollandais or Mauritian Blue Pigeon, *Alectroenas nitidissima*, is illustrated on folios 65v and 66r (Figures 12 and 13). Both of the birds appear to have been killed. No extra morphological details were visible in the underlying pencil sketches, but these drawings clearly represent the best illustrations of the Dutch Pigeon in existence and exquisitely exhibit the long neck hackles, indicative of this Mauritian species. These pictures were first published in Tuijn (1969), who also included a contemporary watercolour of a Dutch Pigeon that had been brought back alive to Holland in 1790, just 36 years before it became extinct.

On folio 66v is probably one of the most important parrot drawings in existence, the enigmatic “Indian raven” or Mauritian Broad-Billed Parrot, *Lophopsittacus mauritianus* (Figure 14). Owen (1866) was presented with a large mandible of an extinct Mauritian parrot collected from Mare aux Songes, a fossil locality famous for remains of the dodo. Its affinities were (and still are) unknown, but Owen concluded that a macaw-sized parrot had
once occurred on Mauritius. Tracings of the parrot and the other Gelderland bird illustrations by the famous French avian palaeontologist Alphonse Milne-Edwards were presented to the Zoological Society in May 1875 (Newton, 1875a). The parrot tracing was subsequently artistically adapted and reproduced, and it is that version (Figure 16, p 22) that has been cited by successive authors (Newton, 1875b; Newton and Gadow, 1896; Rothschild, 1907; Fuller, 1987).

The original pencil drawing (Figure 15) includes much more wing detail than the ink finish, including long primary coverts, large secondaries, and a slightly bifurcated tail. The crest and disproportionately large head are distinctive, and the enormous jaws correspond with the fossil remains. The unusual crest arises from the front of the head and base of the bill and not from the top of the head or nape. It is depicted as loose, rounded feathers in

Figure 15. *Gelderland* journal f. 66v: the underlying pencil sketch (redrawn by J. P. Hume). Only the lower bird has visible differences.
the pencil sketch but in long streaks in the finished ink. The only known skull of this bird has scarring confined to the frontal/parietal region which suggests relatively strong muscle attachment of the crest, as in Australasian cockatoos, and that the broad-billed parrot may also have been able to raise and lower its crest. Thomas Herbert (1638) depicted and also described these birds as “cacato” (cockatoos) (Figure 17).

The colouration of this bird has always been open to debate. A woodcut (Figure 18) illustrating the first landing on Mauritius in 1598 by van Neck (Strickland and Melville, 1848) depicted the broad-billed parrot, albeit simplistically, on top of a tree (but further corroborates the crest originating from the front of the head/base of the bill). The text accompanying the illustration stated: “a bird we call the Indian raven, being in size as big again as the parakeets, and of two and three colours.” Oustalet (1897), Rothschild (1907) and Hachisuka (1953) asserted that the colouration was completely blue-grey and imply that it was taken from the text accompanying the drawing (Figure 14). Cheke (1987) addressed the problem and concluded that the colour assignation was in error. No text other than a brief description of the dodo is found with any of the Gelderland journal bird illustrations, so this colour description must be disregarded. The distinctively drawn but peculiar facial mask is not composed of bare skin but feathered and may represent a different colour. J. C.
Hoffman, the last person to see this species alive, described the “ravens” in 1673–1675 as “red crows with recurved bills and blue heads which fly with difficulty and have received from the Dutch the name of ‘Indian ravens’” (Cheke, 1987).

It was also determined from the drawing that the small wings were indicative of flightlessness (Newton and Newton, 1876; Newton and Gadow, 1896; Rothschild, 1907; Hachisuka, 1953; Fuller, 1987). However, Hoffman’s account suggests they could fly and van Neck’s illustration showed the bird in the top of a tree, an unlikely niche for a flightless parrot.

Folios 91v and 92r illustrate the fleet anchored off Black River Bay. Important ramifications can be derived from this information, for it provides unequivocal evidence of the presence of extinct Mauritian bird species on the leeward, dry side of the island. It is interesting to note that the two areas known to have harboured dodos are both found within the dry, lowland areas of Mauritius (Mahebourg and Black River Bays). The drier region covers less than one-third of the island (Saddul, 1996) and it is possible that the dodo may have been restricted to this zone. Furthermore, it is this zone that is most accessible and vulnerable to deforestation, incoming predators and competitors.

THE ARTISTS OF THE GELDERLAND

Many of the drawings, particularly the topographic profiles, are executed in a style typical of the early seventeenth century. These profiles were drawn in timed stages, as a ship passed any land, to indicate important topographic features, a practice commonly used during navigation and early mapping. The technique used in the journal for drawing specimens (and still practised today) was first to draw the specimen in pencil and then finish off the illustration in ink. The pencil line gives the artist a blueprint that can be followed in ink, but appropriate care must be taken, as mistakes cannot be rectified; hence, the ink lines do not always follow the pencil lines.

Each artist had his own style and technique. For example, the style of the depiction of the Harmenszoon fleet anchored off Mauritius (Figure 19), particularly the shading of the mountains, suggests that the particular artist was also responsible for some of the bird illustrations. This style is especially noticeable in the Red Rail (Figure 1) and the Dutch Pigeon (Figures 12 and 13). The sweeping style used in the dodo head study (Figure 3) is both masterful in its simplicity yet unequivocally reproduces the bird as seen in life. The map drawings are considered to be the work of Joris Joostenzoon (Joostensz) Laerle6 (Wissen, 1995). He was almost certainly the main artist throughout the journal, and I suggest that he was responsible for the bird illustrations other than those on folios 64v and 65r (Figures 7 and 9) which are the work of another artist. Little can be said about these (ff 64v–65r) dodo illustrations, although any genuine drawing of a live dodo is exceedingly important. They were certainly drawn by an artist of somewhat lesser ability. The style and rendition of this artist’s work lacks quality and precision when compared to Laerle’s. Major differences occur in these illustrated specimens; for example, conflicting morphology between the specimens and exaggerated proportions of legs to body. Parchment would have been at a premium during a long voyage so the hidden pencil drawings appear to have been practice attempts before the finished ink drawings were executed.
Figure 19. *Gelderland* journal ff 91v and 92r. The sweeping ink strokes, illustrated on the mountains of this map of Black River Bay by Joris Joostenszoon Laerle, are similar to the style of the majority of the bird drawings. The mountain peaks illustrated (reading left to right) are Mt Ory, Corps de Garde, Rempart, Trois Mamelles (indicated by B), Brise Fer, Tamarin Mountain, Piton du Fouge and Le Morne (indicated by E). The numeral 2 (middle right) indicates the pass into Le Morne lagoon and the letter A, the Tamarin River estuary. Reproduced by kind permission of the Algemeen Rijksarchief, Den Haag, The Netherlands.

Figure 20. Black River Bay today. Le Morne is situated to the left with Ile aux Benitiers in the center of the lagoon. *Gelderland* would have been anchored outside the lagoon and to the north. Reproduced by kind permission of Lee David-Moore.
CONCLUSION

It was almost certainly no accident that an artist of J. J. Laerle’s standard was on board Gelderland when she set sail on 23 April 1601 for the East Indies. This was a period termed the ‘Golden Age’ of Dutch culture, particularly in overseas trade, arts and science (Moree, 1998). Laerle was a fully trained artist, and the proportional drawings of a man and a horse, also found within the journal, fully supports his apprenticeship. He would have been sent with the fleet – this work was also executed in the onerous conditions of a seventeenth century long-distance voyage, with all its hardships – not only to record topographic details and to make maps but also to illustrate anything of geographical, scientific or material value. This was a task he carried out with beautiful effect and precision. The second artist’s input into the journal is minimal. He may have added his ink drawings at a later date or may even have been a student of Laerle.

The bird drawings are just a small component of the two-volume journal but represent the most important Mascarene avifauna drawings known. A. C. Oudemans, who spent his lifetime studying the dodo and who was the author of one of the most detailed, yet rather imaginative, dodo papers (Oudemans, 1917), had plans to reproduce many plates from the Gelderland journal and had prepared a manuscript for publication (Tuijn, 1969). Sadly, he died before fulfilling this ambition.

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NOTES

1 Vice-Admiral Hans Hendricksz Bouwer, sailing with Harmenszoon’s fleet (Moree, 1998), inadvertently became the first person to mention the fauna that once existed there (Moree, 2001). The fleet arrived at Rodrigues on 19 September 1601, where they divided and circumnavigated the island, before setting sail for Mauritius four days later. During this time, only the yacht Duyffken, sailing north, managed to enter the lagoon surrounding the island and, after a short reconnaissance, collected a number of birds that were shared amongst the fleet when they reunited on 23 September (North-Coombes, 1971; Moree, 2001). The crew were not only the first people to land and describe the coast but also captured duijven (doves), papergayen (parrots), ganssen (geese) and dodoerssen (dodos). Interestingly, the name dodoerssen is applied to the only other closely related, but morphologically very distinct, member of the family Raphidae (dodos and solitaires), the solitaire, Pezophaps solitaria, unique to Rodrigues Island. Furthermore, other than Bouwer’s account, no geese have ever been recorded from Rodrigues, but endemic species are known from the other Mascarene Islands of Mauritius and Reunion (Cheke, 1987). Rodrigues lacks lakes but Francois Leguat, marooned on Rodrigues from 1691 to 1693, mentioned year-round running water (North-Coombes, 1971), which may have originally provided suitable habitat. Sadly, all of these species are now extinct.

2 The topographical profile of the fleet anchored in a bay is not Mahebourg Bay (cf Moree, 1996), in the southeast of Mauritius (where van Neck claimed Mauritius for the Dutch in 1598), but Black River Bay, in southwestern Mauritius (Figure 19): Claude Coenig Kingdon, pers. comm., 3 March 2001.

In the centre of the profile, a hitherto unknown small settlement or hospital camp is depicted (Figure 19). The accompanying text describes this area as “the place where the sick lay”. This predates the first Dutch settlement site of Fort Frederick (Moree, 1996) by 37 years.

3 Algemeen Rijksarchief Den Haag, archive compagnieën op Oost-Indië 1594–1603 (1.04.01), inventory number
135, viz. 136. There almost certainly would have been a third volume of the journal (P. Floore, pers. comm., 15 July 2001) and this would have contained detailed notes about geography, suitable landfalls, etc., but more importantly, details about the illustrations. Others may have used this volume, as a reference guide while preparing their voyages, and this may be the reason why it has not survived.

4 In 1617, Pieter van den Broecke was the last commander sent to search for survivors and goods from the lost ships Geünieerde Provinciën and Banda. Pieter Both (1568–1615), the first Govenor-General of the Dutch East Indies (1610–1614), was lost from Banda, and Gelderland, having cut its masts, was blown to shore during the same storm and ran aground; it was totally destroyed and sank somewhere south of Port Louis, 6 March 1615.

5 An islet (Figure 19), lettered “D” with the caption “the spot where we caught the kermis geese or dodos”, is the only islet where the presence of dodos is mentioned. This islet corresponds with l’île aux Benitiers (Figure 20), an islet that can be reached by walking from Le Morne at low tide. Was it not on this islet that Evertsz, after walking across himself, found the very last population of dodos on Mauritius?

6 Joris Joostensz Laerle came from Enkhuizen (a town in North Netherlands). He was a former mate of the fleet and a professional artist. The journal is probably not the original, but a copy made during the return voyage to The Netherlands by Symon Jacobsz, the assistant of Wolfert Harmensz. Both books were probably sketchbooks of Laerle to begin with, and were later used for other purposes (daily journal, other notes etc.) (P. Moree, pers. comm., 3 November 2001).

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