# The ornithology of the Baudin expedition (1800-1804)

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# Chapter 6

Notes

**1**

[1] At that time, the profession of 'scientist' was unknown; term itself was used for the first time in 1834. In fact, all those publishing these kinds of works were amateurs. However, terms like 'scientifique' or 'scientific' already existed, but the working methods differ considerably from those adhered to today, in general te term naturalist can be used (Gibson 2017)

[2] It was common for the aristocracy to have natural history collections. Examples of these are the Mayor of Amsterdam, Nicolaas Witzen (1641-1717), Hendrik Jorisz. d' Acquet (1632-1706), from Delft, and Martinus Slabbert (1740-1835) from Goes, who all possessed a bird collection. Sometimes even vicars had a collection of natural history curiosities such as François Valentijn (1666-1727) from Dordrecht, the Netherlands.

[3] The first Cassowary for example, was exhibited to the general public in Amsterdam as early as 1597 (Engel 1986: 7). Prior to their purchase and departure to the Schönbrunn Zoo in Vienna, for example, the newly arrived animals were displayed at *De Witte Olifant* tavern on the Rembrandtplein, Amsterdam (Engel 1986: 7). One such old Dutch menagerie was that of Jan Barentszoon Westerhof who started the *Blaauw Jan* in 1698; it was situated on the Kloveniersburgwal in Amsterdam until 1784 (Engel 1986: 30-31, Winters 2017). Here, under the care of various owners, all sorts of live animals from foreign countries could be admired, together with malformed men and other curiosities. Later, museum directors such as Coenraad Jacob Temminck, sent live birds and mammals he received from ships and merchants to Arnoldus Ameshoff (1749-1819) who owned a menagerie called 'Amstellust' (Stresemann 1951b: 119-121).

[4] A special example was the Dodo *Raphus cucullatus* which entered the Netherlands via the Mauritskade, Amsterdam in 1626 (Parish 2013: 88). Only very few birds survive from the 18th century, the most famous being the Oxford Dodo (Steinheimer 2015a, Nowak-Kemp & Hume 2016a, b).

[5] Some of the specimens that were collected were included in paintings by Jheronimus Bosch (1450-1516), Roelant Savery (1576-1639), Jan Brueghel (1568-1625), Melchior d'Hondecoeter (1636-1695), François Leguat (c. 1637-1735) and Anna Maria Sibylla Merian (1647-1717) (Jackson 1993).

[6] Various naturalists joined the campaign, like Claude-Louis Berthollet (1748-1822), Guillaume-Antoine Olivier (1756-1814), Étienne Geoffroy Saint-Hilaire (1772-1844), René-Claude Geoffroy de Villeneuve (1767-1831) and Marie-Jules-César-Lelorgne de Savigny (1777-1851). From this 'expedition', 35 specimens can still be found in the MNHN (see chapter 3.9).

[7] A scientific debate is still raging over the ornithological exploits of Cook's voyages, with discussions on the exact numbers of specimens and their current whereabouts still forming various points of discussion. Merrem (1784), Sharpe (1906), Gyldenstolpe (1926), Lönnberg (1926), Stresemann (1949, 1950), Lysaght (1959), Burton (1969), Whitehead (1969, 1971, 1978), Sweet (1970), Medway (1976, 1979, 1981, 2002, 2004, 2009), Wagstaffe (1978), Elter (1986), Largen (1987), Hauser-Schäublin & Krüger (1998), Bauernfeind (2003, 2004) and Steinheimer (2003b, d 2005a, 2006a, b) have all had something to say on the subject.

[8] For more information and references to ornithological history see: Stresemann (1951b), Faber (1997), Engel (1986), Mearns & Mearns (1998) and Walters (2003). For examples of expeditions see Brosse (1983a, b), Finney (1984), Stowell Rounds (1990) and Gascoigne (2014).

[9] In the Netherlands, the most famous collection was that of the Stadthouder which was put together by Stadtholder Willem V (1756-1795) in 1773-1774 to exhibit paintings to the public. It also had a natural history collection and a menagerie; the paintings are now housed in the Mauritshuis, The Hague. The collection contained 684 bird specimens from Albert Seba (1665-1736), Petrus Camper (1722-1789), Johannes Nicolaas Sebastiaan Allamand (1713-1787), Frederik Ruysch (1638-1731) and Aernout Vosmaer (1720-1799) when the French robbed the collection in 1795. The French even took the copper plates by Albertus Seba to Paris (Walters 2003: 43). Few specimens were left behind and most of those were in spirits. They eventually ended up in the collection of van Gijsbertus Johannes van Klinkenberg (c.1768-1841) followed by Theodoor Gerard Lidth de Jeude (1788-1863) with parts of the Stadthouder collection eventually finding their way to RMNH (= Naturalis) and the British Museum (= Natural History Museum). A selection of 847 bird specimens were brought back to the Netherlands from the MNHN in October/November 1815, but were possibly all duplicates from other collections (see chapter 3.9).

[10] In 1739, the Kungliga Vetenskapsakademien (Swedish Academy of Sciences), was founded in Stockholm (Åhlander *et al*. 1997). It contained the private bird collections accumulated by Adolf Ulrik Grill (1752-1797), Conrad Quensel (1767-1806) and Gustaf Freiherr von Paykull (1759-1826).

[11] In Germany, there were many nobles who had their own collections, including Duke Albrecht V of Bavaria (1528-1579) (Schulze-Hagen *et al*. 2003: 462), Ferdinand II of Hapsburg (1529-1595) (Schulze-Hagen *et al*. 2003: 462), Emperor Rudolf II of Habsburg (1552-1612) (Bauer & Haupt

1976, Schulze-Hagen *et al*. 2003: 462), Charles II August Christian (1746-1795) and King Friedrich Wilhelm II (1744-1797). The collection made by Herzog Carl I von Braunschweig und Lüneburg (1713-1780) was started in 1754 and is now incorporated into the Staatliches Naturhistorisches Museum, Braunschweig. In 1759, Maximilian III Joseph von Bayern (1727-1777) started his collection which went on to found the Zoologische Staatssammlung, München. And finally, Ludwig Friedrich Alexander von Württemberg (1756-1817) founded the Staatliches Museum für Naturkunde, Stuttgart, in 1791.

[12] In Austria, Kaiser Franz II von Österreich (1768-1835) had a collection.

[13] In Italy, the private collection of the Grand Duke, Peter Leopold of Lorraine (1747-1792) was founded in 1775; it now belongs to the University of Firenze, (Museo Zoologico de 'La Specola', Sezione del Museo di Storia Naturale).

[14] In Spain, the Museo Nacional de Ciencias Naturales in Madrid was founded by King Carlos III (1759-1788) in 1771 after he had obtained the collections from Pedro Franco Dávila (1771-1786).

[15] Peter de Great (1692-1725) formed the Kunstkamera in St Petersburg, Russia (Zoologicheskii Institut, Rossiiskoi Akademii Nauk) in 1728.

[16] By 1756, Sloane had a private collection of 1,172 items, but only 5 original items still survive in 2017 (Steinheimer 2003c, Walters 2003: 53, Jarvis & Cooper 2014).

[17] There were no surviving items from de Réaumur's collection in 2016 (see chapter 3.9). Brisson (1760), was largely based on this collection.

[18] Other notable 18th century private collections were those of Bernard Meyer (1767-1836), Johann Friedrich Blumenbach (1752-1840), Johann Andreas Naumann (1744-1826), Johann Friedrich Naumann (1780-1857), Adolf Fredrik III (1710-1771) and Cornelis van Hoey (1717-1803) (e.g. Violani & Rovati 2010: 14). Some collections were absorbed directly into large collections such as those of Marmaduke Turnstall (1743-1790) which still has 25 surviving specimens (Jessop 1999a, b), Johann Wolfgang von Goethe (1749-1832) with 10 surviving specimens (Klausewitz 2000), Willem Sebastiaan Boers (1752-1811) (Cleef & Schreurleer 1797) and others. The private collection of Jacob Temminck (1744-1822) and later Coenraad Jacob Temminck (1778-1858) (Temminck 1803-04, 1807) formed the nucleus for the RMNH (= Naturalis), Leiden, the Netherlands which was founded on 9 August 1820 (Jansen 2017a). The same applies to the private collection of Johann Centurius Graf von Hoffmannsegg (1766-1849) which formed the nucleus for the Museum für Naturkunde, Berlin, Germany; it went on to become part of the University collection (Steinheimer 2005b). The collection of Daniel Sprüngli (1721-1801) was the start of the Naturhistorisches Museum Bern, Switzerland and the private collection of Franco Andrea Bonelli (1784-1830) formed the seed of the Museo Regionale di Scienze Naturali at Torino, Italy in 1815.

[19] Which was founded by Elias Ashmole in 1656 and which is now the Oxford University Museum.

[20] In the Netherlands, the collection at the Leiden University grew slowly and was known as *Theatrum Anatomicum*; it was founded in 1594. Birds were only a very small part of the total collection. On 9 August 1820, this collection was merged with the collection in the RMNH. In Sweden, the zoological collections at the Uppsala University were founded well before 1758 and it contains at least 11 Linnean types (Wallin 2001: 14-15). The bird collection in the Zoologisk Museum of Lund University, Lund, Sweden was founded in 1735 (Roselaar 2003). In Norway, the Museum of Natural History & Archaeology in Trondheim, was founded by Johan Ernst Gunnerus (1718-1773) in 1760. In Russia, the Zoological Museum of the Moscow Lomonosov State University was founded by Grigori I. Fisher in 1812; the previous collection here was destroyed during the Napoleonic Wars. In Halle, Germany, Johann Friedrich Gottlieb Goldhagen's (1742-1788) collection entered the Institut für Zoologie, Zoologische Sammlung at the Martin-Luther-Universität in 1769. In France, the Musée zoologique de l'Université Louis Pasteur et de la Ville de Strasbourg, Strasbourg, France containing 600 birds from the collections of Johann Hermann (1738-1800) was formed in 1760. In Italy, the Accademia delle scienze di Siena was started using the collection made by Pirro Maria Gabrielli (1643-1705) in 1691 and the Pisa University (Museo di Storia Naturale e del Territorio, Università di Pisa) was founded in 1750.

[21] In the Netherlands, only two 'public' museums existed before 1800, both in Haarlem: the Naturaliënkabinet van de Hollandsche Maatschappij der Wetenschappen which was founded in 1759, opened to the public in 1772 and closed in 1866, and Teylers Museum which was founded in 1779, opened to the public in 1784 and is still open today (Sliggers 2002).

[22] In France, the Cabinet du Roi was a natural history curiosity cabinet started by Louis XIII in 1633, and was the forerunner of the MNHN (chapter 3.9).

[23] In Pavia, Italy, Il Museo di Storia Naturale dell'Università di Pavia was open to the public and held specimens from Lazzaro Spallanzini (1729-1799) and Giovanni Alessandro Ritter von Brambilla (1728-1800) (Violani & Rovati 2010: 13-14); it had 170 bird specimens in 1786 and 536 by 1799.

[24] Founded in Karlsruhe around 1785.

[25] In 1793 in Vienna, Austria, Emperor Franz I (1768-1835) founded the Naturhistorisches Museum Wien when he purchased the collections of his retired friend, Joseph Natterer Sr. (1754-1823).

[26] The museum formed by Ashton Lever (1729-1788) in Manchester, England in 1766 and which subsequently moved to London in 1774 was important. A year later the collection opened in the Holophusicon - the Leverian Museum. On 23 March 1786, Lever's collection went by lottery to the estate agent James Parkinson (c.1730-1813) and was auctioned in June 1806 (King & Locheé 1979a). Specimens were purchased by private collectors such as Edward Donovan (1768-1837), William Bullock (c. 1773-1849), Leopold von Fichtel (1770-1810), who bid for the Imperial Museum in Vienna, and the Leverean and British Museum's taxidermist John Thompson bidding for Lord Derby (Wagstaffe 1978, Kaeppler 2011). The birds purchased by Bullock were exhibited in his own museum, the contents of which were subsequently auctioned off in 1819 (Anon. 1819, King & Locheé 1979b, Costeloe 2008). Both the Holophusicon and the Bullock Museum were open to the public.

[27] Such as William Wade Ellis (1751-85), Charles Clerke (1741-79), Thomas Davies, Barthold Lohmann (1749-1812) who was known as Bartholomew Lowman on the muster roll, David Nelson (d. 1789), David Samwell (1751-98) and Heinrich Zimermmann (1741-1805) (Plitschke 1931, Stresemann 1950, Whitehead 1978, Medway 1981).

[28] See for example Stresemann 1950, Medway 1981, Olson 1989, Olson & James 1994 and Steinheimer 2006a.

[29] Most birds were documented by drawings such as those executed by Aert Schouman (1710-1792), Robert Jacob Gordon (1743-1795), Sydney Parkinson (c.1745-1771), William Wade Ellis (1751-1785), John Webber (1751-1793), Johann Georg Adam Forster (1754-1794) and Thomas Watling (1762-c. 1814) (e.g. Lysaght 1959, Hindwood 1970). These can be compared with the actual collected specimens.

[30] It was undertaken on behalf of Thomas Grace of London (69 lots) with 17 more collections, including birds and eggs, following before 1800 (Chalmers-Hunt 1976).

[31] Stuffed birds in early collections were regularly used as inspiration and guides for artists (e.g. Gessner 1551-1558, Belon 1555, Cyganski 1585, Aldrovandi 1599-1603) (Schulze-Hagen *et al*. 2003).

[32] Some specimens from Hawaii and New Zealand, collected during the third Cook circumnavigation, were kept in spirits (Burton 1969).

[33] The recipe by Dufresne (1819: 13) is Campre (5 onces), Arsenic en poudre (2 livres), Savon blanc (2 livres), Sel de tartre (12 onces) and Chaux en poudre (4 onces).

[34] Thunberg travelled to South Africa, Sri Lanka, Java and Japan, Japan, Solander joined the first expedition around the globe captained by James Cook (1768-1771) and made a trip to the Hebrides, Orkneys and Iceland and Sparrman travelled to China, South Africa and joined a part of the second expedition around the globe (1772-1775) captained by James Cook.

[35] Only a tiny amount of data can be traced in books, letters or diaries from before 1800. The origin of many of the old specimens is therefore pure guesswork (e.g. Jansen & van der Mije 2015a, b, Jansen & Roe 2016).

**2**

[1] On 14 February 1794, the expedition was apprehended on Java by the Dutch government as a result of the French Revolution (Whittell 1954). The bird specimens from this expedition only arrived in MNHN between 1816 and 1818 (e.g. Stresemann 1953b) via naturalist Jacques-Julien-Houtou de Labillardière (1755 –1834). He travelled to Paris to his brother Wilhelm and seeking a place to participate into an expedition. He met up with Louis-Antoine de Bougainville who urged von Humboldt to join him on a major expedition. De Bougainville made a circumnavigation of the globe (1766-1769), made the first recorded settlements on the Falklands and made voyages into the Pacific.

[2] Von Humboldt learned the natural history skills from Johann Friedrich Blumenbach (1752-1840), George Forster, Joseph Banks, whom he all met or travelled with. Von Humboldt published several papers and his focus was geology and part of the Weimar Classism group that consisted out of Johann Wolfgang Goethe (1749-1832) and Johann Christoph Friedrich von Schiller (1759-1805).

[3] The latter expedition (1796-1798) brought back bird specimens from Tenerife, St. Thomas, St. Croix and Puerto Rico, resulting in 296 birds being deposited in the MNHN (Geoffroy Saint-Hilaire 1809: 88). There are still 140+ of these specimens surviving today; for more details on the Caribbean expedition see chapter 3.1 (Jansen & Fuchs 2017).

[4] Baudin was not from the aristocracy and did not belong to the naval establishment. He only became an officer in the French Navy in 1788. He obtained his first command in 1780, but was soon replaced by an officer of noble birth who had better connections. Baudin took this badly: he resigned in disgust and complained bitterly of the injustice he had suffered (Fornasiero *et al*. 2004). For years he worked as a merchant seaman and his 1796-78 voyage was heartily supported by the MNHN, although the expedition was not organised by the government. When he returned to France in 1798, he was warmly welcomed and reinstated as post-captain in the French Navy. Baudin was appointed for his voyage of discovery due to help from Jussieu and his own lobbying.

[5] The instructions were: complete the survey of the coast of Southern Tasmania, which d'Entrecasteaux had begun and map the area from the Hunter Islands Group (off NW Tasmania) to the Nuyts Archipelago. Then sail to Cape Leeuwin and chart the western coast, paying special attention to the River Swan, Rottnest Island and Shark Bay. After wintering in Timor, map the southern coasts of New Guinea as far as the Torres Strait, then examine the Gulf of Carpentaria and return along the shores of Northern Australia as far as the North-West Cape.

[6] Until the late 19th or early 20th century, scientists were called 'natural philosophers' or 'men of science' and the men on the Baudin expedition are often referred to as 'scientists'. However, the term 'scientist' was not invented until 1833 when it was first used by William Whewell. Gibson (2017) explained that the term naturalist could apply to writers, illustrators, engravers, editors, collectors, taxidermists, curators, professors, lectures, society members, travellers or explorers, therefore is chose to use the term naturalists for the members selected for this expedition.

[7] All classic journals of former visits to New Holland were present in the ship's library, as well as numerous publications on botany and zoology.

[8] The skilled professionals that boarded the *Le Géographe* in Le Havre were: Frédérik Bisy, an astronomer who left the expedition on Mauritius; Charles-Pierre Boulanger, a cartographer; René Maugé, a zoologist who died on the expedition; Jean-Baptiste-Louis-Claude-Théodore Leschenault de la Tour, a botanist who left the expedition on Timor; Charles-Gérard Milbert, an artist, who also left the expedition on Mauritius; Anselme Riedle, a gardener who died on the expedition; Louis Depuch, a mineralogist; François Péron, a zoologist; Stanislas Levillain, a zoologist who died on the expedition; Antoine Soutier, a gardener who also died on the expedition; Antoine Guichenot, a gardener and P. Louis LeBrun, an artist who left the expedition on Mauritius.

The skilled professionals that boarded the *Le Naturaliste* in Le Havre were: Pierre-François Bernier, an astronomer who died on the expedition; Pierre-Ange-François-Xavier Faure, a cartographer; André Michaud, a botanist, who left the expedition on Mauritius together with Jean-Baptiste Bory de Saint-Vincent, a zoologist; Joseph-Charles Bailly, a mineralogist; Désiré Dumont, a zoologist who left the expedition on Mauritius together with Jacques Delisse, a botanist, François Cagnet and Merlot, both gardeners and Michel Garnier, an artist.

[9] The claim was made by Officer Jean-Mengaud de la Hage on behalf of King Louis XV whilst St Aloüarn himself remained aboard the ship (Godard & de Kerros 2009: 3).

[10] It is interesting to note the disagreement between the various authors of the exact docking location on Tenerife. Ledru (1810: 294) mentions Santa Cruz de Tenerife in a letter quoted by Baudin and Bory (1805: 14, 15). Péron (1809), Brown & Flannery (2004: 80) and Milius (2013) also mention Santa Cruz de Tenerife. On the other hand, Puerto Santa Cruz is mentioned by Montesinos *et al.* (2003: 330), Baglioni & Crémière (2009: 40) and Duyker (2006: 56). On the sketches by Lesueur, however, Santa Cruz de Tenerife is clearly visible.

[11] The Caribbean/Tenerife birds have little text on the pedestal underside and only note Maugé as the collector. The 14 specimens still available from Tenerife, represent the oldest surviving collection of birds with a dataset anywhere in the world. They are listed in chapter 3.1.

[12] According to the pedestal underside the specimen was collected by *Péron et Lesueur*. This is only noted on the pedestal undersides of birds collected on the 1800-1804 voyage. It is also dated 'An 6' and was therefore collected in 1796. In 1796, Baudin left this bird behind in a crate and he only opened it again when he and Maugé visited the French consul, Pierre-François Clerget

(1746-1808) on 8 November 1800. Baudin and Maugé had left behind specimens they knew were already present in the MNHN and therefore decided to take back the more important specimens first (Baudin 1974: 27).

[13] Bory de Saint-Vincent (1805) mentions records of Brown Noddy on 2 December 1800 (p. 41), Red-billed/White-tailed tropicbirds and Ascension Frigatebird on 24 December 1800 (p. 47-48), Albatrosses were seen between 10-15 January 1801 (p. 49) and on 20 January 1801 Maugé killed an albatross; another was observed on 22 January 1801 (p. 51). Tropical Shearwater *Puffinus bailloni* or Barau's Petrels *Pterodroma baraui* were observed (Cheke 2010: 72, Collection Lesueur, MHNH 15037).

Hyacinthe H.Y.P.P de Bougainville mentions the following birds in his diary: Brown Noddy on 3 November 1800, Red-billed/White-tailed tropicbirds on 14 November 1800, one albatross shot on 14 January 1801 and three more on 16 February 1801, with a Cape Petrel being taken from fishing lines on 17 May 1801 (Archives Nationales 155/AP6).

Léon F. de Brèvedent, noted these birds in his diary: Red-billed/White-tailed tropicbirds on 22 November 1800, Ascension Frigatebird on 7 December 1800 and Albatrosses on 13, 14 (eaten by the crew), 18 January, 14, 16 February, 14, 17 May, 27, 29 December 1801 and 6 January 1802 (Archives Nationales 5/JJ/56 (2 cahiers)).

François-Désiré Breton noted these birds in his diary: Red-billed/White-tailed tropicbirds on 22 November 1800, Ascension Frigatebird on 7 December 1800, Albatross on 13, 14 (eaten by the crew), 18 January, 14, 16 February, 14, 17 May, 27, 29 December 1801 and 6 January 1802 (Archives Nationales 5/JJ/57).

Jacques de Saint-Cricq mentioned the following in his diary: petrels and albatrosses on 27 May 1801, with Black Swans, petrels, Australian Pelicans, and quails between 21 May and 19 June 1801 (Archives Nationales 5/JJ/48).

Pierre-Guillaume-Gicquel des Touches recorded in his journal: Red-billed/White-tailed Tropicbirds and swallows on 21-22 November 1800, Ascension Frigatebird on 6-7 December 1800 and albatrosses on 13-14 January 1801, two of which were killed, and petrels on 15-16 January 1801. On 14-15 January, a small bird was killed, as were some grey birds on 15-16 January, 18-19 January and 14-15 February. On 15-16 February 1801, three albatrosses were killed: one white, with a wingspan of 9 feet and 10 inches and two grey birds (Archives Nationales 5/JJ/55).

Jean-Baptiste-Louis-Claude-Théodore Leschenault de la Tour noted: several Cape Petrels between Mauritius and Cape Leeuwin (Archives Nationales 5/JJ/56).

René Maugé collected one albatross on 20 December 1800 (Bory Saint-Vincent 1805: 50).

Jean-Baptiste-Désiré Dumont collected several albatrosses between 10 and 15 December 1800 (Bory Saint-Vincent 1805: 49-50).

Three Albatrosses were collected (2 brown, 1 white) on 14 February 1801 (Baudin 1974: 96) and two more on 15 February 1801 (Baudin 1974: 98). These albatrosses were also mentioned in Barwell (2010). A "Diomedea spadicea" (Collection Lesueur, MHNH 79070) was collected on 7 January 1802 (Jangoux 2005: 14). On 14 January 1801, an adult and a younger bird were collected (Collection Lesueur, MHNH 79089-1Ar-Fv, 79089-1j-2v,19090Ar-b) (Jansen 2018a). One Cape Petrel was caught on 13 May 1801 (Baudin 1974: 146-147), 4 were caught on 17 May (Baudin 1974: 148) and 7 more were collected on 18 May 1801 (Baudin 1974: 149), all midway between Mauritius and Western Australia (roughly 33 41 S, 79 16 W). On 29 May 1801, two more birds were captured (Fornasiero *et al.* 2004: 44).

[14] Baudin was unaware of concrete British plans to send out a rival expedition to map Australia. In the end, they sent commander Matthew Flinders to Australia with HMS *Investigator* which left England on 18 July 1801. Baudin only became aware of the British intentions when he met Flinders in Encounter Bay.

[15] Western Australia was known from patchy and unreliable charts produced by the following Dutch sailors: Dirk Hartog (1616) who charted 417kms of coast from the Shark Bay region to NW Cape; Frederick de Houtman and Jacob d'Edel in the *Maeght van Dordrecht*, (1619) who mapped Bunburry, Rottnest and Houtman Albrolhos Islands; Willem Janszoon in the *Mauritius* (1622) who mapped Ashburton River; Abel Tasman in the *Leeuwin* (1622) who charted roughly 180kms of Western Australia's south west coast between Hamelin Bay and Point D'Entrecasteaux; François Thijssen in *'t Gulden Zeepaerdt* (1627) who mapped more than 1,500 kms of coastline from Albany, Western Australia, to Ceduna, South Australia, including the St Francis and St Pieter Islands; Gerrit Frederikszoon de Witt in the *Vianen* (1628) who mapped the Montebello Islands, including Barrow Island; François Pelsaert in the *Batavia* (1629) who

was shipwrecked on the Abrolhos Islands and Willem de Vlamingh in the *Geelvinck* (1696-97) who mapped and explored Rottnest Island and the mainland in and around the River Swan together with several areas of interest that lay north along the coast, including Dirk Hartog Island.

The English captain, William Dampier, in the *Cygnet* (1688) mapped the area near Albany and returned with the HMS *Roebuck* (1699) to map the Broome region. His compatriot, George Vancouver, used the *Discovery* (1791) to chart the area near Albany too.

The French made landfall twice. Louis de Saint Aloüarn in the *Gros Ventre* (1772) in Flinders Bay near Cape Leeuwin and Dirk Hartog Island and Marc-Joseph-Marion du Fresne anchored with the *Mascarin* off Tasmania in the same year. Antoine-Bruni d'Entrecasteaux, on his voyage with the *Recherce* and *Espérance* (1792) only sailed past the St Alouarn Islands off Western Australia.

Baudin's decision *not* to head to Tasmania cost him the discovery and survey of a major part of the south coast of New Holland (Finney 1984: 109).

16 A Pied Oystercatcher (Collection Lesueur, MHNH 79058), Silver Gull (Collection Lesueur, MHNH 79066Br, Duyker 2006: 82, Jangoux 2005: 16), Pacific Gull (Collection Lesueur, MHNH 79058), Red-tailed Black Cockatoo (Collection Lesueur, MHNH 79058Ar-58c), Grey Shrike-thrush (Collection Lesueur, MHNH 79058), Australian Pipit (Collection Lesueur, MHNH 79058) and Australian Magpie (Collection Lesueur, MHNH 79058) were observed. Stanislaus Levillain collected a Southern Emu-wren at Cape Leeuwin (Collection Lesueur, MHNH 0800BB, 79058) and he observed an Australian Pelican (Collection Lesueur, MHNH 07008FE).

17 Discovering places such as Cape Clairault, Cape Freycinet, Becher Point, Cape Bouvard, Cape Leschenault and Cape Mentelle.

18 Passing the channel between Dirk Hartog and Dorre Islands.

19 Baudin mentions that they saw cormorants, noddies, petrels, gulls, sea-eagles, oystercatchers, flycatchers and speckled magpies (Whittell 1954: 61). He also noticed a beautiful species of tomtit, with a blue ring round its neck (Whittell 1954: 61).

20 Even on a later landing later Péron felt of some rocks, harming himself.

21 Stresemann (1951a) assumed that Pied Honeyeater, Singing Honeyeater and Little Woodswallow were collected at Bernier Island.

22 Mapping large numbers of islands and islets such as: Depuch Island, Rivoli Islands, L'Hermite Island, Lancelin Islands, Forestier Islands and Lacepede Island as well as most of the islands in the Bonaparte Archipelago. Numerous other places such as Gantheaume Point, Frenchman's Bay, Jurien Bay and Depuch Cove were also mapped.

According to Stresemann (1951a: 69), Beach Thick-knee was collected on Depuch Island beach. On 24 July, Baudin noted the first tropicbirds in a long time; they were either white-tailed or red-tailed (Whittell 1954: 61).

23 At Carnac Island, Levillain recorded birds of prey from the buzzard family, large crows, water birds, oystercatchers and both black and white cormorants. At the mouth of the River Swan, Levillain recorded 'red-bellied green parrots', a large bird of prey and small birds (Whittell 1954: 60).

Joseph Baily and François Heirisson collected several Australian Pelicans and Black Swans in the River Swan (Whittell 1954: 60). According to Stresemann (1951a: 66), the type specimen of Australian Pelican was collected on the River Swan in July 1802. Some Black Swans were also collected, with Stresemann possibly referring to Bailly and Heirisson here.

François-Michel Ronsard noted shearwaters on Rottnest Island and he collected a Western Rosella (Archives Nationales 5/JJ/56) on 4 June 1801.

24 It was during a trip to Dirk Hartog Island that Hamelin discovered the plaque left by Willem de Vlamingh in 1697. The *Le Naturaliste's* men found the Vlamingh plaque lying in the sand where it had fallen from its post. They recognised its importance and immediately took it back to the ship for Hamelin to examine. Hamelin had Vlamingh's plaque and one of his own re-erected on new posts, the first at the Dutch explorer's site and the second at an undetermined location. De Vlamingh replaced the plaque set by Dirk Hartog in 1616. In 1818 on *Le Uranie* Louis de Freycinet recovered the Vlamingh plate and it was taken to France. After being lost for more than a century, the Vlamingh plate was rediscovered in 1940, the plate was eventually returned to Australia in 1947 and is currently housed in the Western Australian Maritime Museum in Fremantle, Western Australia. The original piece found by de Vlamingh as it was erected by Dirk Hartog is now preserved in the Rijkmuseum, Amsterdam, the Netherlands.

[25] Pied Oystercatcher was also collected (Collection Lesueur, MHNH 07800FE, 07008BI).

[26] Joseph Lefevre was originally from Gent and stayed for the whole trip. Modeste Guiomas was from Antwerp and died on Timor (Jangoux 2013, Margaret Sankey *in litt*.). Both men were what nowadays would be called Flemish, but Flanders had been annexed by the French First Republic by 1800.

[27] Riedlé was buried alongside David Nelson who had died on 20 June 1789. Nelson was the botanist on Captain William Bligh's HMS *Bounty* voyage.

[28] During his visit to Timor in 1801, René Maugé collected at least 153 specimens of 61 species (see chapter 3.5). To date, 117 specimens still exist and are held in five European collections; the MNHN holds 91 of these specimens (77,7 %). There are 52 species which were new to science based on Maugé's collection and 28 of their names are still in use.

[29] From his Timor visit, Leschenault de la Tour mentions Great Frigatebird, Brahminy Kite, Brown Goshawk, a very common 'hornbill', several parrot species, Sunda Collared Dove, Asian Blue Quail, Wallacean Drongo, Munias, flycatchers, Timor Green Pigeon, Glossy Swiftlet and Red Junglefowl (Archives Nationales 5/JJ/56, page 101).

[30] Jacques de Saint-Cricq mentions the following birds in his diary: storm petrels, Cape Petrels, albatrosses and other petrel species were noted frequently between 22 November 1801 and 20 January 1802 (Archives Nationales 5/JJ/48).
On 1 December 1801, one Cape Petrel was collected between Timor and Tasmania (Collection Lesueur, MHNH 79060Aa, 79060Av), one Tropicbird was collected on 2 December 1801 (Collection Lesueur, MHNH 79071v) and a Wilson's Storm-petrel (Collection Lesueur, MHNH 79060Ar and 21002 no 2166, Whittel 1954: 62); a White-chinned Petrel was collected on 31 December (Collection Lesueur, MHNH 79060Av,79060B, Whittell 1954: 63). Boobies, tropicbirds and a 'Grey Petrel' were also noted (Whittell 1954: 63).

[31] When the ships arrived in Tasmania there were 25 sick men aboard *Le Géographe* and 18 on *Le Naturaliste* (Brosse 1983b: 100).
Stresemann (1951a: 67-68) mentions that both Common Bronzewing and Brush Bronzewing were collected here.

[32] Tasmania was discovered by Abel Tasman who made landfall near Cape Sorell, south-east of Strahan on the west-coast, in 1642. Until 1798, however, it was thought to be part of mainland Australia until Flinders and Bass discovered that Tasmania was actually an island. On 3 November 1798, the sloop *Norfolk,* under the command of Matthew Flinders and accompanied by George Bass, entered Port Dalrymple.

[33] Notes by Péron indicate the collecting of Pallid Cuckoo (Collection Lesueur, MHNH 79105), Dusky Robin (Collection Lesueur, MHNH 21003) and Beautiful Firetail (Collection Lesueur, MHNH 413 and 579).
Birds collected by Lesueur included a Superb Fairy-wren at the Huon River (Whittell 1954: 64). On Bruny Island, Lesueur collected the most birds, 'tens of birds which we did not have before' (Whittell 1954: 64). Sulphur-crested Cockatoo, large Black Cockatoos and fairy-wren were noted from this visit (Whittell 1954: 64).

[34] There are a number of places on Tasmania which were discovered and named by the Baudin expedition. These include the Freycinet Peninsula, Mt Freycinet, Cape and Mount Baudin, Taillefer Rocks, Cape Peron, Cape Bernier, Cape Bailly, Cape Boullanger, Cape Faure, Reidle Bay, Maurouard Bay, Lesueur Bay and, on Maria Island, Maugé Point.

[35] In March 1772, du Fresne anchored in Marion Bay, a little south of this place on mainland Tasmania.

[36] On 12 March 1802, Breton noted collecting Little Penguins, collecting possible shearwaters on 14 March 1802, Cape Barren Goose on Preservation Island on 12 March and again on Waterhouse Island on 4 April, with Cormorant/Gannet on 24 May.

[37] Freycinet collected Little Penguin and 'geese' here (Freycinet 1815: 68, 91).

[38] Part of the coastline was mapped by George Bass in 1798. He sailed south from Sydney in a whaling boat, past Cape Howe and Hicks Point and round Wilson's Promontory as far as Western Port. James Grant was also exploring the region in 1800, but Baudin was unaware of this. In what are the current states of Victoria and South Australia they discovered various places such as Venus Bay on 29 March, Cape Marengo on 30 March, Cape Volney on 31 March, Cape Reamur on 1 April and Cape Montesqieu, Descartes Bay and Cape Duquesne all on 2 April. The Fleurieu Peninsula was also named by Baudin.

[39] When the ships came alongside each other, Flinders immediately asked if this was Captain

Baudin's ship. Baudin was so stunned he just nodded, whereat Flinders and his crew doffed their hats to him. Naturalist Robert Brown joined Flinders on *Le Géographe* for their visit. Both commanders first inspected passports and then discussed their discoveries and the mistakes made in the charts available to them. Only the next day did Baudin realise that Flinders was his adversary regarding the exploration of Australia and that some of the maps he knew about were actually made by Flinders and Bass. Flinders donated one or more new bird species to the expedition (Collection Lesueur, MHNH 21002, Nº 32), although it remains unknown which.

[40] It must have been a big disappointment for Baudin to discover that most of the south coast had already been explored by Flinders.
A completely black cormorant (= Little Black Cormorant) was reported by Péron on 9 April 1802 (Collection Lesueur, MHNH 09016); it is also mentioned in Jangoux (2005: 16).

[41] The site of the Sydney Opera House.

[42] The was received as new in the colony from the crew of the ship *Venus* on 11 May 1802 (Starbuck 2009: 221).

[43] ne bird died before they arrived on Mauritius and the other perished somewhere between Mauritius and France (Jangoux 2018a).

[44] Not a turtle from Samoa *contra* Fornasiero *et al*. (2004: 271).

[45] There were 59 crew members aboard and 3 passengers. There were 48 crates of zoological, botanical and mineral specimens; 10 crates contained 'birds' (Jangoux 2018a). At 2 November 1802, the embarkation on *Le Naturaliste* started (Starbuck 2009: 224).

[46] Aboard *Le Géographe* and sharing Baudin's cabin, was 16-year-old Mary Beckwith, an escaped convict, who became the first European female ever to walk on Kangaroo Island.

[47] The captain H. Weld-Noble had a large Wombat *Vombatus ursinus tasmaniensis* for Baudin which was transferred to the *Le Naturaliste* (Finney 1984: 113, Jangoux *et al*. 2010: 269).

[48] No birds collected on King Island were brought back with *Le Naturaliste*.

[49] Another issue were six stowaways discovered on *Le Géographe.* Baudin ordered that they be left behind on King Island.

[50] It was noted that the following birds were observed or collected: Black-faced Cormorant (Collection Lesueur, MHNH 79061), two Little Penguins (Collection Lesueur, MHNH 21002, Nº 6), Pacific Gull (Collection Lesueur, MHNH 21002 (Nº 5)), Southern Boobook (Collection Lesueur, MHNH 21003 Nº 503) and Satin Flycatcher (Collection Lesueur, MHNH 21002). An egg from a Little Penguin was also obtained (Collection Lesueur, MHNH 21002, Nº 31), probably from Daniel Cooper.

[51] A Musk Lorikeet was also caught here alive and shipped to France. Eggs and specimens of Short-tailed Shearwaters were collected (Collection Lesueur, MHNH 21002, Nº's 2, 52). Other species collected here, such as Pied Oystercatcher (Collection Lesueur, MHNH 21002 (Nº 3), are no longer present in collections.

[52] Named Decrès Island after Denis Decrès (1761-1820).

[53] Baudin has on board Mary Beckwith, a 16-year old stowaway who, with permission from Governor King, was allowed aboard and so became the first European woman to set foot on Kangaroo Island (Chittleborough *et al*. 2002: 24, Duyker 2008).

[54] To protect it from erosion, the original rock is now housed at the Gateway Visitor Information Centre on Howard Drive, Penneshaw, and a replica is on public view on the Penneshaw foreshore beneath a concrete dome which has been a local landmark since 1906.

[55] More birds are known to have been collected here such as two Australian Pelicans (Collection Lesueur, MHNH 21002 (Nº 335), 79073R, V)), Black-faced Cormorant (Collection Lesueur, MHNH 21002 (Nº 336)), Pied Oystercatcher (Collection Lesueur, MHNH 21002 (Nº 373), Silver Gull (Collection Lesueur, MHNH 21002 (Nº 401) and Southern Boobook (MNHN, Bibliothèque centrale, Ms 65010).
According to Stresemann (1951a: 67), Beautiful Firetail, Brush Bronzewing, Grey Goshawk and Southern Boobook were observed or collected.

[56] The general dampness of the livestock and the death of two kangaroos caused Baudin to order Jean-Baptiste Leschenault de la Tour and Joseph Ransonnet to leave their cabins so that they could be occupied by livestock.

[57] Black-faced Cormorant (Collection Lesueur, MHNH 21002 (Nº 850)) and Little Penguins were observed and collected (Collection Lesueur, MHNH 21002 (Nº 849), Duyker 2006: 172), as were Australian Pelicans (Collection Lesueur, MHNH 21002 (Nº 851)) (MNHN, Bibliothèque centrale, Ms 65010), Pied Oystercatcher (Collection Lesueur, MHNH 21002 (Nº 857), Silver Gull (Collection Lesueur, MHNH 21002 (Nº 852, 853, 854 and 856), Pacific Gull (Collection Lesueur, MHNH 21002 (Nº 855)) and Glossy

Black Cockatoo (Collection Lesueur, MHNH 21002 (N° 580)), 79078 (n° 449), MNHN, Bibliothèque centrale, Ms 65010, Fornasiero *et al.* 2004: 237-238) (see also Whittell 1954: 69).

58 Cape Vivonne, Cape Thevenard, Tourville Bay and Murat Bay are still a reminder of this successful exploration of the Australian coast. On 15 February, during the journey to Two People Bay, Giant-petrels were encountered (Whittell 1954: 69).

59 Apparently a Red-capped Parrot was collected here (Stresemann 1951a).

60 A Little Black Cormorant was collected near Geographe Bay in March 1803 (Collection Lesueur, MHNH 21002 (Nº 1236)).

61 The Hardhead collected here (Collection Lesueur, MHNH 21002 (Nº 1430)) is untraceable as is the Little Black Cormorant (Collection Lesueur, MHNH 21002 (Nº 1429)).

62 *Le Géographe* had so many live animals and plants on board, that the fully provisioned ship could only last 59 days before having to take on a fresh water supply.

63 Dates when Red-billed Tropicbird were registered are: 6, 7, 14, 15, 17, 18, 19, 20 (2), 22 and 23 July 1803 (Collection Lesueur, MHNH 79071r & v, 21002 (Nº's 2097, 2103, 2135, 2138, 2145, 2149, 2155, 2157, 2165, 2173, 2179)). Wilson's Storm-petrel was also noted between Timor and Mauritius (Jangoux 2005: 10). Great Frigatebird was collected in mid-June and 7 July (Collection Lesueur, MHNH 21002 (Nº's 2098, 2150)). A Red-footed Booby is documented in Collection Lesueur, MHNH 79072Bv, 79072Cr and in Collection Lesueur, MHNH 21002 (Nº 2167, 2168)). Silver Gull (Collection Lesueur, MHNH 21002 (Nº 2013, 2035, 2043, 3083 and 2096) was noted at various locations on the way to Timor and in northern Australia.

64 The mammals and birds, including the two live Emus, left the ships and lived in the garden of Mme Kérivel (Fornasiero *et al*. 2004: 271-272) in Port Louis.

65 Some notable collectors had previously visited Mauritius and some specimens from these expeditions can still be found in collections in Europe, especially in the MNHN. Well-known examples of these are the Mauritius Blue Pigeon, with one specimen each in the MNHN, NMS and in Port Louis, and the Mascarene Parrot, again one each in the MNHN and NMW. Colonel Mathieu and Pierre Sonnerat were the known collectors here (Cheke & Hume 2009, Cheke & Jansen 2016). Even so, the Baudin collection has the oldest surviving collection in double figures.

66 Two Brown Boobies were reported by Péron and were also collected here (Collection Lesueur, MHNH 21002 (Nº 1448 and 1451), 79121, 79072Br, CR).

67 This was already a well-known area before the Baudin expedition, having been visited by adventurers such as François Levaillant (1753-1824) and Anders Sparrman (1748-1820); for a comprehensive overview see Rookmaker (1989). There are few specimens available today from those early expeditions, but many drawings still survive.

68 Specimens such as Knysna Turaco and Jackass Penguin.

69 Including Western Crested Guineafowl, Variable Sunbird and Blue-throated Roller.

70 They appeared properly packed and were stored in the hold, protected from the humidity (Jangoux 2018a).

71 Empress Joséphine de Beauharnais (1763-1814) was born as Marie-Josèphe-Rose-Tascher de La Pagerie. Her marriage to Napoléon I was her second marriage; her first husband, Alexandre-François-Marie, Viscount of Beauharnais (1760–1794) was beheaded during the Reign of Terror and she herself was imprisoned in the Carmes prison until five days after Alexandre's execution. They had two children together. In 1795, she met Napoléon I, six years her junior, and became his mistress. In January 1796, Napoléon I proposed to her and they married on 9 March. She survived an assassination attack on her and Napoléon I in 1800. On 2 December 1804, she was crowned the first Empress of the French, hence her title. They divorced on 10 January 1810, but she retained both the title of empress and her home in Château de Malmaison until her death on 29 May 1814.

In 1799, while Napoléon I was away on campaign in Egypt, Empress Joséphine purchased the Château de Malmaison with borrowed funds. Though she later became mistress of Versailles, Tuileries, Fountainebleau and Saint-Cloud, Malmaison was her main home. She modelled the gardens on the English style with winding paths, bridges, temples and cottages, and hired Scotsman Alexander Howatson as head gardener; he was later replaced by Felix Delahaye (1767-1829) in 1805. Empress Josephine collected plants as well as mammals competitively, vying with the Museum of Natural History for specimens. Some voyagers such as Alexander von Humboldt, Aimé Bonpland and the Baudin expedition were specifically asked to bring back natural history items for her (Jouanin & Benoit 1997: 24-34). Empress Joséphine's garden at Malmaison included many species of animals collected on Baudin's voyages such as: Southern Cassowary,

King Island Emu, Kangaroo Island Emu, Black Swans, Secretarybirds, Purple Swamphen, Western Crowned Pigeons and various parrots. There were also various mammals, such as Caracal *Caracal caracal*, Black-and-white Ruffed Lemur *Varecia variegata*, Mountain Zebra and various kangaroos. The first kangaroo arrived in 1804, the only one of the three aboard *Le Géographe* which survived. Not only did Empress Joséphine receive live mammals, she also took possession of 117 specimens collected on the Baudin expedition (e.g. Jouanin & Benoit 1997: 32). On top of that she also received 20 birds from Baudin's 1796-98 voyage (Jangoux 2018a). Louis Dufresne, the MNHN taxidermist, also mounted and sold birds to her. Not only natural history items went to her, but also the ethnographical objects collected by George Bass (Jouanin & Benoit 1997: 33). After her death, the contents of Malmaision were auctioned off and this included 600 bird specimens (lot 2662, Grandjean 1966: 261) which were purchased by an unknown source. Various live birds were likewise auctioned (lots 2875-2880, Grandjean 1966: 274-275), including three old and four young Black Swans originating from the Baudin expedition (lot 2876).

[72] Founded in 1626, the Jardin du Plantes is part of the MNHM and includes the Grande Galerie de l'Évolution. It is situated on part of the Rue du Buffon and its menagerie was founded in 1795. After 11 months at Empress Joséphine's Malmaison, the King and Kangaroo Island Emus (Jouanin 1959: 181) were moved to the menagerie at the Jardin du Plantes. They died here on 7 February 1822 and 18 May 1822 respectively (contra Jouanin 1959: 180-181 who mentions January).

[73] Part of the flora also ended up at Château de Navarre, this was a château near Évreux in Normandy, which was burned to the ground in 1834. It was owned by Empress Joséphine in 1810.

[74] *Louis Dufresne (1752 - 1832)* joined the staff of the MNHN as a taxidermist in 1794. He eventually became head of the Zoological Laboratories, a position held until his death on 11 October 1832. Prior to accepting his post in the MNHN, he travelled the world with *Le Astrolabe* and the *Boussole* (1785-1788). Dufresne left this fatal expedition, which was later wrecked on the Vanikoro Islands, in Macao (Sweet 1970, Jouanin & Benoit 1997: 68-71, chapter 3.9). Dufresne had a wide network of contacts and visited London in 1800 and 1802 and had accumulated a large private bird collection. The collection now in NMS, was first offered to Berlin (1815) (Cheke & Jansen 2016), NMW and the Emperors of Russia (Sweet 1970: 40). On 9 November 1818, the collection contained 1,517 entries of birds (1,640 individuals, 2/3 were non-British birds) and 800 eggs, 3,823 species of insects and 2,061 species of shells (Sweet 1970: 45, 67). By 1970, only 200 had been traced, 567 had been destroyed and 883 remain unaccounted for (Sweet 1970: 68, 69). Of the 105 Baudin expedition birds, as found in Dufresne (1818), only 22 survive in 2017 (Appendix 1).
Part of the bird collection was mounted in Dufresne's home, as testified by a report by Dufresne mentioning the mounting of 100 birds (14 September 1803, Archives Nationales AJ/15/590) and a further 50 birds a year later (15 August 1804, Archives Nationales AJ/15/591). Dufresne directly purchased Baudin birds from E. Geoffroy Saint-Hilaire as proven by a bill kept in the Archives Nationales and dated 14 September 1803 (Archives Nationales AJ/15/590). It was for 40 birds: 240 francs being charged to Madame Dufresne who also participated in mounting the specimens. On 13 February 1805, 22 Australian birds were purchased (Ms Dufresne, Journal, Travaux, 1803-1822, Laboratory MNHN). Dufresne was involved in an exchange / purchase of 50 birds to NMW in 1815.
*Michel-Adrie Lalande* was a taxidermist at the museum who also acted as a trader of specimens. In 1815, he 'sold' 78 specimens to NMW, including 14 birds from the 1800-1804 expedition as well as 4+ birds from Baudin's Caribbean voyage (1796-1798). In 1806, he mounted the collection of birds to be sent to Rouen, including 56 Baudin expedition birds (Collection Lesueur, MHNH 21111) and was involved in an exchange / purchase of 79 birds to NMW in 1815. Father and son (Jangoux 2018a)
*M. Bécœur* was a taxidermist who accompanied Dufresne to the Malmaison of Empress Josephine (Jouanin & Benoit 1997: 70) and was involved in an exchange / purchase of 164 birds to NMW in 1815.
*M. Desmouslin* was mentioned as a taxidermist (Archives Nationales AJ/15/591 documented dated 15 August 1804).
*M. Perefile* was also mentioned as a taxidermist (Archives Nationales AJ/15/590) (chapter 3.10).
*Mlle. Charpentier* was another taxidermist (Archives Nationales AJ/15/590) (chapter 3.10).
*M. Le Roy* was also a taxidermist (Archives Nationales AJ/15/591 document dated 15 August 1804).

[75] One of the questions which arose while researching the specimens that were to be x-rayed, was 'was arsenic soap used on these specimens?' This was an option as the MNHN senior taxidermist was the first ever to publish the full recipe (Dufresne 1803). However, the visibility of arsenic in x-rays is still a subject for research and discussion (see chapter 3.10, Jansen & Steinheimer

2017). As no qualitative judgement can be made with normal x-rays as to whether arsenic was used or not, chemical analysis seems to be the better method (e.g. Desjardins 2016).

[76] Various articles and books have been published over the years on Baudin and his fellow crew members. It is not easy to summarise them all here. For further information see Sankey (2001 & 2010b: 103-134) and Fornasiero & West-Sooby (2010: 135-164).

[77] The museum specifically trained people to carry out scientific work and the detailed accounts of the voyages of exploration were even funded by the French government between 1793 and 1840 (Labillardière 1800, Péron 1807a, b, 1811, Péron & Freycinet 1815, 1816, Lesson & Garnot 1826-30, Freycinet & Quoy 1837). The journals and objects brought back from the expeditions then became the property of the French people through the new national institutions.

[78] The British had not yet started investing in the training of scientists. That only started in the early 19th century and, to begin with, only 'amateurs' accompanied the larger expeditions. However, foreigners employed by the British, such as the Swede Daniel Carlsson Solander (1733-1782) and the Germans Johann Georg Adam Forster (1754-1794) and Johann Reinhold Forster (1729-1798) were all highly skilled 'amateurs'.
In 1820, the Dutch sent out Heinrich Kuhl (1797-1821) and Johan Conrad van Hasselt (1797-1823) with the newly formed Commission for the Study of the Natural Sciences of the Dutch East Indies (Klaver 2007).

[79] Such as Gabrielle Baglione, Jacqueline Bonnemains, Christine Cornell, Jean Fornasiero, Frank Horner, Michel Jangoux, Christian Jouanin, Madeleine Ly-Tio-Fane, Stephanie Pfennigwerth, Margaret Sankey, Nicole Starbuck and John West-Sooby (Sankey *et al.* 2004). The bibliography compiled in November 2015 by Jean Fornasiero, and which is available on the University of Sydney website devoted to the Baudin Legacy project (http://sydney.edu.au/arts/research/baudin/project/), is incredibly useful, as are other files on the same website.

[80] Like those of Charles Bailly (Mayer 2005), Francis Barrallier (Smith 1990), Pierre-François Bernier (Vialle 2004), Louis Depuch (Mayer 2005), Pierre Faure (Duyker 2000), Antoine Guichenot (Nelson 1976), Jean-Baptiste Leschenault de la Tour (Desmet & Jangoux 2010), Charles-Alexandre Lesueur (Bonnemains *et al.* 1988, Baglione & Crémière 2009, Altman 2012), Stanislas Levillain (Maury 1954), André Michaux (Pluchet 2010) and François Péron (Duyker 2006).

[81] As taxonomy continues to change, the importance of types and type localities are more important than ever and the value of the Baudin expedition collection was in desperate need of a closer study. It is the author's opinion that science will benefit enormously from this dissertation, as it aims to correct mistakes and add information drafted by the expedition's crew. Due to the specimens' presence, taxonomical problems can be solved using morphology, biometrics and genetics. Not only is the number of 396 specimens still present substantial, it is the most extensive historically, as it far outnumbers the biggest surviving collections pre-1800.
Using the IOC version 8.1 (Gill & Donsker 2018) list, we noticed that the Baudin birds greatly contributed to Vieillot and Temminck's totals. From all taxa ever described up to 2018 (single authors) we find in the top 12: 1. Linnaeus 738; 2. Gould 671; 3. Hartert 649; 4. P.L. Sclater 573; 5. Sharpe 566; 6. Vieillot 462; 7. Ridgway 437; 8. J.F. Gmelin 421; 9. Reichenow 420; 10. Chapman 391; 11. Temminck 391; and 12. Bonaparte 360. For species only, top 12: 1. Linnaeus 718; 2. Gould 414; 3. Vieillot 396; 4. J.F. Gmelin 369; 5. Temminck 343; 6. P.L. Sclater 338; 7. Sharpe 226; 8. Bonaparte 201; 9. Blyth 197; 10. R. Lesson 167; 11. Gray, GR 160; and 12. Latham 158 (Paul Clapham on Birdforum 20 March 2018).

[82] The type catalogues on the avian types held in the MNHN are an ongoing project and to date have been published by: Berlioz 1929, Jouanin 1950, Voisin 1992, 1993, 1995, Voisin & Voisin 1996, 1999, 2001a, b, 2002, 2008a, b, 2009, 2010, 2011a, b, 2012, 2015, 2016a, b, Voisin *et al.* 1997, 1999, Voisin *et al.* 2004, 2005, 2008, 2015, Somadikarta *et al.* 2002, Voisin & Mougin 2002 and Cleere *et al.* 2006. Up to 1 April 2017, a total of 39 type species collected on the Baudin expedition have been published, 52 more followed in November 2017 (Jansen 2017e, see chapter 3.5).
The lists of type-specimens kept at Naturalis were published in van der Hoek Ostende *et al.* (1997), Dekker (2003) and Dekker & Quaisser (2006), although few are specifically linked to the Baudin expedition. Schlegel was also consulted (1862a, b, c, d, 1863a, b, c, d, 1864, 1865, 1866, 1867, 1875) when trying to locate Baudin birds. Schifter *et al.* (2007) was consulted for the types in NMW and Herman *et al*. 1990 was consulted for NMS.

[83] The first series of 20 publications were those carried out by Jacques Pucheran (1845, 1849-54, 1851), who discussed the types in the MNHN collection. Pucheran identified the type-specimens and also mentioned a rough estimate of the collection locality. In the spring of 1914, Charles E.

Hellmayr (1914, 1916) carried out research on the specimens collected by the Baudin expedition in the MNHN, especially those from Timor. Dominic Louis Serventy and Hubert Massey Whittell (1948) analysed the 1807a, b, 1811, Péron & Freycinet 1815, 1816 publications by Péron and their research was later reproduced in Whittell (1954: 58-69). Parts of Whittell (1947: 57-61) on Levillain are included, as some archival research was carried out by Serventy and Whittell (1948). In 1951, this paper had a follow-up in which Erwin Stresemann (1951a) made a summary of both Péron and Freycinet (1807-1816) and Serventy and Whittell (1947).
Primary sources that designated type localities involving Baudin birds, were those by Gregory Mathews (1912, 1913, 1927) and James Lee Peters (Peters 1931, 1934, 1937, 1940, 1945, 1948, 1951, Amadon *et al*. 1979, 1962, Mayr & Greenway 1960, Deignan & Ripley 1964, Mayr & Traylor 1986, Greenway *et al*. 1967, Paynter & Storer 1970, Blake *et al*. 1968, Paynter 1987, Mayr & Cottrell 1979). Richard Schodde and Ian J. Mason also provided locality information in 1997 and 1999. Secondary sources supplying further information include Richard Bowdler Sharpe (1875) and Charles E. Hellmayr (1914).

[84] The collecting localities described in this paper were restricted using ICZN 1999, article 76A.2.A as a guideline and are based on the available data such as documents, name of collector, collecting localities, shipment and interpretation of subspecies. Manifold difficulties were encountered as a result of the specimens having been relabelled by Péron (e.g.Jangoux 2005: 5, Duyker 2006: 124). Other challenges included incorrect localities, misspellings and inaccurate identifications (chapter 2.3, Jansen 2015b, 2018b, Jansen & van der Vliet 2015, van der Vliet & Jansen 2016, 2017, van der Vliet *et al*. 2017, Jansen & Steinheimer 2017). As explained in chapter 2.2, only a few locations were visited by the expedition in Australia and at most of those locations collecting was executed for the first time ever; no diaries or complete collecting lists exist (see chapter 2.3). In those early days of exploration, datasets as are required today, were not part of the instructions, meaning that there is only very limited and inconsistent data available.
By pinpointing the collecting locality (see Appendix 1), the importance of the expedition at that specific locality could be established. With the exceptions of Bruny Island, which was visited by Labillardière in 1792-93 (Duyker 2003), Kangaroo Island visited by Robert Brown in March-April 1802, King George Sound which was also visited by Robert Brown in December 1801-January 1802 and Botany Bay (see chapter 3.4), these other localities were the first places where collection of natural history items took place and from which there are still surviving specimens for all localities. The largest intact collection for each previously visited location is represented by Baudin's specimens.
The collecting localities as given in Appendix 1, are those from material available for 326 specimens in the MNHN. This is combining information as collector, ship, year of arrival, diary notes, publications, or distribution area in relation with visited locations. The information on the specimens (e.g. pedestal underside, label, acquisition book and family monography) has a lot of discrepancies and varies often within the same specimen. Not only wrong collector, but also boat and collecting locality had to be corrected (for replication purposes all the available material per specimen is noted in Appendix 1). The faults were corrected as much as possible to extract the right collecting locality (however, some remain 'best guess'). From these 326 specimens, 324 had information on their 'collector' (Baudin (48), Dufresne (2), Dumont (2), Lesueur (24), Maugé (86), Péron (25), Péron and Lesueur (118), Levillain (1) and Unknown (2)), for 236 specimens was information available if they arrived on *An XI* (202) or *An XII* (24) and for 116 specimens the ship was mentioned (*Le Naturaliste* (99) and *Le Géographe* (17)).

[85] Using the status list on the BirdLife International website examined on 27 May 2017, these particular birds stand out from the specimens listed in Appendix 1,
- 2 extinct species: King Island Emu and Kangaroo Island Emu;
- 3 critically endangered species: Regent Honeyeater, Swift Parrot and Mauritius Olive White-eye;
- 8 endangered species: Sooty Albatross, Australian Bittern, Australian Painted Snipe, Short-billed Cockatoo, Timor Green Pigeon and Mauritius Kestrel;
- 4 vulnerable species: Southern Cassowary, Cape Gannet, Hooded Plover and Mauritius Cuckooshrike.

[86] The two most recent avian collections which still exist and are supported by diary notes and/or lists and that have been examined integrally, are those by HMS *Beagle* (1831-1836) (Steinheimer 2004) and John Gilbert (1812-1845), particularly the expedition to Australia between 1838-1845 (Fisher & Calaby 2009). The element that made research into both these voyages relatively easy was the availability of notes, tags or diaries, much of which is lacking from the older expedi-

tions such as the Baudin expedition. Reasonably systematic labelling was only taken more seriously when Hermann Schlegel (1804-1884) started promoting it in the 1860's (Jansen & Roselaar 2017). In the future, similar investigative work could be done on expeditions such as those of *La Coquille* (1822-25), *Astrolabe* (1826-29) and *Bonite* (1836-37) where full lists are available which can be used as leads, making analysis easier.

87 The specimens were studied and the findings subsequently published in *Asterides* by Lamarck (1816), Müller & Troschel (1842, 1843), Perrier (1875), *Medusae* (Cuvier 1817, 1830, Lamarck 1816, Blainville 1834, Lesson 1843, Milne-Edwards 1841) *Algea* (Lamarck 1815, Lamouroux 1812, 1813, 1816, Agardh 1821, 1824), *Crustacea* (Bonnemains & Jones 1990), *mammals* (Desmarest 1817) and *flora* (Bonpland 1813, Gaudichaud-Beaupré 1826, Jangoux 2018a).

88 Although Baudin noted that some feathers and wings were collected (Baudin 1974: 319) they cannot be traced in any taxidermy report or in the existing collections. Eggs were also collected but remain untraceable.

89 The official expedition narrative is contained in linked publications by Péron, Freycinet, Lesueur and Nicolas-Martin Petit (1777-1804) under the title: *Voyage de découvertes aux Terres Australes, exécuté par ordre de sa Majesté, l'Empereur et Roi, sur les corvettes le Géographe, le Naturaliste et la goëlette le Casuarina, pendant les années 1800, 1801, 1802, 1803 et 1804*.
They comprise the following parts:
- Vol. I, *Historique*, by François Péron, 1807;
- Vol. II, *Historique*, by François Péron, continued by Louis de Freycinet, 1816;
- Vol. III, *Navigation et géographie*, by Louis de Freycinet, 1815.
- *Atlas Historique*, 1st part, by Charles-Alexandre Lesueur and Nicolas-Martin Petit, 1807;
- *Atlas Historique*, 2nd part, by Charles-Alexandre Lesueur and Nicolas-Martin Petit, 1811;
- *Atlas, Navigation et géographie*, by Louis de Freycinet, 1815 which appeared in December 1814.

Only random birds are mentioned in these publications and those that are, were not necessarily collected as specimens.
In spite of receiving maps from Flinders of his discoveries in Encounter Bay, the French could not resist annoying the British by announcing that they had discovered the entire south coast of Australia and claiming it for France.

90 The first French publications specifically on ornithology were those written between 1826-1830 by René-Primevère Lesson (1794-1849) and Prosper Garnot (1794-1838), which described the *Coquille* voyage (1822-1825). In 1839, Englishman Frederick William Beechey (1796-1856) published his writings on the *Blossom* expedition which was undertaken between 1825-28 (Beechey 1839). Further French and British expeditions that collected natural history items at the turn of the 19th century have been discussed by Andrews (1993) and Bartle (1993).

91 The same faith was experienced with François Levaillant's collections made in Southern Africa in 1781-1784, 300 African birds ended up in MNHN (chapter 3.9) and <175 specimens in Coenraad Jacob Temminck's collection (Jansen 2017a: 353). Possibly this was the largest collection made up to that stage on any expedition (roughly 500 specimens).

92 The totals from Macé (135) and Dumont (20) and the 403 Baudin specimens as noted on 12 January 1809 by Louis Dufresne (see chapter 3.9), are all part of the Baudin expedition (558 specimens).

93 For a list of collectors and donors see Appendix 3. Specimens were obtained via exchange, donation or purchase.

94 *Edinburgh* Sweet (1970) recounts the story of the route the specimens travelled before finally ending up in the NMS. Specimens have been listed in NMS that found their way into the catalogue drafted by Dufresne in 1818. John Hutton Stenhouse, who worked in the collections after William Eagle Clarke retired in 1921, made annotations to the catalogue. The ledger in which the destroyed birds were registered was not very specific and sometimes the wrong specimen was noted by Stenhouse (McGowan & Stenhouse 2010, Bob McGowan *in litt*. 10 November 2016). A manuscript catalogue dated 1815 is housed in Berlin (Cheke & Jansen 2016). The Dufresne catalogue does not contain a reference of the original collector.
*NMW* As part of the 'Final Act' of the Congress of Vienna in 1815, France had to make reparations to the Netherlands, Russia and Austria for natural history specimens stolen during the French Revolution and the Napoleonic Wars (e.g. Daszkiewicz & Bauer 2003). On 31 October 1815, a load was sent to the NMW from the MNHN containing 122 birds of 103 different species. In this consignment were 12+ birds from the Caribbean voyage (Archives Nationales AJ/15/840) and 13 Australian, 16 Timorese and 1 specimen from Mauritius from Baudin's 1800-1804 expedition. This was only a tiny amount compared to the 847 specimens donated to the Netherlands

as part of the 'Final Act' reparations made to them (see chapter 3.9). Russia received no bird specimens at all.

It is odd to note the purchase of ex-MNHN specimens by the NMW directly after the MNHN-NMW donation. The purchases were made of specimens acquired from three MNHN taxidermists, M. Bécoeur, L. Dufresne, M.A. Lalande and the merchant firm Verreaux from Paris, amounting to 335 specimens in total. The most plausible explanation, given the situation, is that those specimens were also part of the 'Final Act' deal.

*Naturalis* Naturalis, formerly Rijksmuseum van Natuurlijke Historie (RMNH), was founded on 8 August 1820 and had four primary collections. One of them was the private collection acquired by Coenraad Jacob Temminck, although only limited documentation exists of his collections (e.g. Temminck 1803-04, 1807, Hartlaub 1849, Stresemann 1953a, Jansen & van der Vliet 2015, Jansen 2017a). As shown in chapter 3.4, only few collectors were active in Australia, and none in Timor, apart from the Baudin 1800-1804 expedition. Temminck a regular in the MNHN collection and acquired several Baudin expedition birds (e.g. Jansen 2017a). All birds from Temminck's collections were designated as originating from Baudin's expedition by me, for example on a note by Péron (Short-tailed Starling RMNH.AVES.90406 mentions Péron as collector) and notes by Temminck in subsequent publications. Temminck had very strong ties to the MNHN, not only in relation to birds, but also because two of his sisters lived in Paris (van Lynden-de Bruïne 2001). Some of his visits to France are described by van Lynden-de Bruïne (2001) and a number of exchanges are registered in various MNHN books.

It may be possible that birds from the Baudin expedition were among the 847 'Final Act' specimens donated to the Netherlands, as this was also one of the four collections that formed Naturalis (see above under NMW).

In Naturalis in January 2018 various items (38+) – labelled as from the Baudin expedition – are stored, for example from Botany (16 items), reptiles (5), *pisces* (2), *Brachiopoda* (1) and Porifera (13). Labelled as collected by Baudin, Péron and Péron and Lesueur.

[95] The specimens were offloaded *Le Géographe* when the expedition was at Port Jackson, as on 16 July 1802 all was emptied on-board, and the ship was careened. Same was executed on *Le Naturaliste* on 27-29 August 1802 (Starbuck 2009: 222-223).

[96] According to Péron in Collection Lesueur, MHNH 21003, for instance, 20 entries of new species were collected in D'Entrecasteaux Channel. These included: Swift Parrot, Fan-tailed Cuckoo, Pallid Cuckoo, Noisy Miner, Dusky Robin, Black-faced Cuckooshrike, Satin Flycatcher, Southern Emu-wren, Yellow-throated Honeyeater, Little Wattlebird, Australian Raven, Grey Fantail, Superb Fairy-wren, Yellow Wattlebird, Crescent Honeyeater, Laughing Kookaburra and Ruddy Turnstone (see also chapter 3.11).

Few of the birds which were noted as new and from D'Entrecasteaux Channel (as in Collection Lesueur, MHNH 21003) have been documented elsewhere. For Swift Parrot, Péron mentions that he observed and collected it, probably on Maria Island (Plombey *et al*. 1990: 24), Laughing Kookaburra was mentioned (Collection Lesueur, MHNH 21002 (Nº 139) as having been collected on King Island, Superb Fairy-wren is also documented from King Island (Collection Lesueur, MHNH 21002 (Nº 25, 97)) and Kangaroo Island (Collection Lesueur, MHNH 21002 (Nº 376)), Yellow-throated Honeyeater was observed and the species was collected on Maria Island (Bonnemains & Chappuis 1985, Plombey *et al.* 1990: 24, Duyker 2006: 121). Dusky Robin was documented by Péron on Bruny Island (Collection Lesueur, MHNH 79098) and King Island (Collection Lesueur, MHNH 21002 (Nº 106)). He also mentioned Satin Flycatcher and Australian Raven as having been collected on King Island (Collection Lesueur, MHNH 21002 (Nº 396, 104, 107), 79080 and in MNHN, Bibliothèque centrale Ms 65010). The above data is more precise and locations are corrected for the species' current distribution. This casts real doubts on the precision of data Péron was using. It is therefore imperative that birds collected in D'Entrecasteaux Channel be subject to future research.

[97] Collection Lesueur, MHNH 21002 is the catalogue executed by Péron titled *Descriptions Zoologiques*. It discusses 12 catalogues written by Péron about objects clearly in his care, or possibly from his own observations, ranging from insects to mammals with birds only being a minor feature.

The numbers in brackets are the registration numbers which were found, they do not represent the number of specimens that were collected. The order shows that mistakes can easily be made with origin of the specimens, as entries from one locations are mapped into several catalogues.

Catalogue I: Timor (75 entries)

Catalogue II: King Island (Nº's 001-299)

Catalogue III: Kangaroo Island (Nº's 301-672)
St Pierre & St Francis (Nº's 673-687)
Two People Bay (Nº's 688-748)
Catalogue IV: St Pierre & St Francis (Nº's 751-1023)
Two People Bay (Nº's 1024-1212)
Catalogue V: A. Geographe Bay (Nº's 1230-1240 & 1302-1309)
B. Two People Bay (Nº's 1241-1297 & 1309-1307)
C. Timor (Nº's 1298-1299)
D. Port Jackson (Nº's 1300-1301)
E. Shark Bay (Nº's 1308-1329)
F. St Pierre & St Francis (Nº 1310)
Catalogue VI: Shark Bay (Nº's 1400-1513)
North Australia => Timor (Nº's 1514-1535)
Timor => Northern Australia (Nº's 1536-1563)
Catalogue VII: *Spongiidae* - various locations (Nº's 1664-1717)
Catalogue VIII: Lesueur drawings (no birds) (Nº's 1718-1931)
Catalogue IX: Insects 1. Timor (669 sp.)
2. Kangaroo Island (162 sp.)
3. Two People Bay (41 sp.)
4. Norfolk Island (1 sp.)
5. Port Jackson (2 sp.)
6. Hunter Islands (3 sp.)
7. St Francis (4 sp.)
8. King Island (99 sp.)
9. St Francis (22 sp.)
Total of 1,005 insects according to Péron.
Catalogue X: North Australia => Timor (Nº's 2011-2020);
Timor => Gulf of Carpentaria (Nº's 2021-2104);
Gulf of Carpentaria => Mauritius (Nº's 2105-2189);
Catalogue XI: Supplement Two People Bay & Shark Bay (Nº's 1213-1223);
Catalogue XII: King Island, Port Jackson, Bass Strait, Timor, Northern Australia (Nº's 2190-2216).

The 'Timor' mentioned in Catalogue XII is the second visit and the notation of Geograph Bay would have been when the ships were passing through the area in 1803; Shark Bay was the visit the expedition paid to the area in March 1803. It is clear that documentation of the activities only took place from Port Jackson onwards. Only a few specimens obtained in Port Jackson were catalogued here.

[98] Museums and academic institutions continue to preserve important collections and they are of indispensable importance when investigating systematic biology, biogeography, historical threats, and the evolution of biodiversity. Worldwide, it is estimated that at least 2,500,000,000 natural history preparations and specimens are kept in around 6,500 collections (Simmons & Muñoz-Saba 2003). Of these, the items specifically related to birds are often skeletons, mounts, study skins, microscopic feather mounts, feather artefacts, eggs, tissue samples, feathers and fossils (e.g. Saranathan *et al.* 2012, Mlíkovský 1996, 2010).

One example of the importance of museum specimens for historical research and the understanding of evolution today are the finches and mockingbirds collected by Charles Darwin (1809-1882) on the HMS *Beagle*. They were originally studied by John Gould (1804-1881) and, working with his remarks, Darwin himself studied these birds extensively and included them in his best-known work *The origin of species* (Darwin 1859) (e.g. Steinheimer 2004). Despite Darwin having no dataset in place when his Galapagos Finches and Mockingbirds first entered the British Museum, with additional research (e.g. notes by Robert Fitzroy) the right collecting locality was defined and the rest is history.

[99] With the correct labels in place and a decent sample size available, the former distribution area of birds can be constructed (Peterson *et al.* 1998, 2002), including places where they do not occur today due to the increase in human populations. In 1800, the world population was lower than 1 billion and now, in 2017, it is estimated at around 7,6 billion. Before 1800, many of the places visited by the voyages of discovery were not populated or deforested (e.g. Besson 2012, Jansen 2014a). It is also worth noting the local adaptations to habitat that can be researched

with museum specimens (e.g. Bot & Jansen 2013). Biographies can be written using available material (e.g. LeCroy & Jansen 2011, Jansen 2013), specimens can be used for avifauna purposes (e.g. Jansen 2012, Jansen 2014b, Maley *et al*. 2016) and environmental heritage can be analysed (e.g. Duckworth *et al*. 1993, Collar 1999, Ade *et al*. 2001). For taxonomic purposes, specimens can be of enormous help as is discussed in the section of this dissertation on DNA and morphometrics.

[100] The Latinisation of nomenclature for flora and fauna officially started in 1758 with the 10th edition of Carolus Linnaeus' *Systema Naturae*. In the years following Linnaeus' Latinisation, John Latham and Johann Friedrich Gmelin (1748-1804) were among the most productive publishers of articles on new species. They were soon followed by Louis-Jean Vieillot (1748-1830) and Coenraad Jacob Temminck (1778-1858) who both studied actual specimens, as opposed to the former three who mostly studied descriptions and drawings.

'Type-specimens' are the specimens on which the original author bases a new taxon. These type-specimens are highly valued by museums as tools for stabilizing nomenclature and constitute the most important material in a natural history collection (Schuchert 1897, Bailey 1933, Johnson 2005, Cisneros-Heredia 2017). They are also historical objects which provide interesting information for the natural history historian. The ICZN Code (1999) recommends that every institution holding type-specimens publish lists of such material, making the information freely available to the public. Determining the specific name-bearing type-specimens is far from easy due to priorities at the time of naming. They had not yet been selected in any systematic way as they would in modern publications.

With complete data-sets, specimens obviously become more valuable for DNA-sequencing (Cooper 1994, van der Elzen *et al*. 2005, Rizzi *et al.* 2012, Tin *et al.* 2014, Besnard *et al.* 2015, Burrell *et al.* 2015).

In the last decade, digital photography has taken off and many bird species are now very well documented, making the need for collection obsolete (e.g. Robb *et al*. 2013, Minteer *et al.* 2014). However, parts of the scientific world do not agree (e.g. Winker *et al*. 1991, Remsen 1995, Kirwan *et al*. 2015).

[101] Measuring the museum specimens' wing-length to make statistical comparisons between populations / taxa, age and sex is difficult when attempting to compare these measurements with live specimens (Vepsäläinen 1968, Greenwood 1979, Fjeldså 1980, Herremans 1985, Jenni & Winkler 1989). This is due to the shrinkage of specimens after skinning (Kuczy ski *et al*. 2003) and the effects of the different preservation techniques (Knox 1980, Vepsäläinen 1968, Bjorkdal 1983). Other difficulties include assessing the moult and age of the specimens (Jenni & Winkler 1994). Errors can occur when numerous researchers measure the specimens, even if they use the same measuring strategy (Nisbet *et al*. 1970). However, if the data is standardised (Svensson 1992, Engelmoer & Roselaar 1998) and reliable, it is easy to use.

Geographical and local variation can be studied using study skins (e.g. Furness *et al*. 2010, Corso *et al*. 2015, 2016), as can the species' intermediate plumages (e.g. Jansen & Nap 2008) or differences in plumage between the sexes (e.g. Gluckman 2014). As new knowledge emerges, collections can also be re-examined. An example of this is the re-examination of the Large-billed Reed Warbler *Acrocephalus orinus* which was only known from one specimen (Round *et al*. 2007): additional specimens were found in other museums (Svensson *et al*. 2008) and its breeding area was ultimately localised by using the knowledge on morphometric features (Kvartalnov *et al*. 2013).

Parts of the skeleton such as the skull (Tokita *et al*. 2016) and beak (Bright *et al*. 2016) can be researched for their evolutionary role. The thickness and colouration of eggshells can be studied (e.g. Green 1998 and Avilés 2008, Cassey *et al*. 2010) as well as the eggs of extinct or threatened species (e.g. Knox 2014).

[102] Museum specimens are unique resources for investigating systematics and biogeography as well as other aspects of the evolution of biodiversity (e.g. Houde & Braun 1988, Graves & Braun 1992, Wescheler 1995, Ellis 2008). Specimens of threatened or extinct species are often the only way to study their DNA. The first successful sequences of DNA samples from extinct taxa (e.g. Higuchi *et al*. 1984, Thomas *et al*. 1989) were soon followed by many more (e.g. Lovette *et al*. 2008, Zuccon & Ericson 2012, Mitchell *et al*. 2016, Anmarkrud & Lifjeld 2017). For non-extinct birds, more and more DNA-related studies have been executed (e.g. Gee 1988, Houde & Braun 1988, Graves & Braun 1992). The more refined the molecular-genetic techniques became, the more the specimens were subject to research. As access to fresh tissue samples is often limited due

to funding, socio-political instability in study areas, rarity and/or elusiveness of taxa, the value of museum specimens, especially those with a full and reliable data-set is becoming increasingly important (Frahnert 2001, Suarez & Tsutsui 2004, Wandeler *et al*. 2007, Boessenkool *et al*. 2010, Lister & Climate Change Research Group 2011, Guschanski *et al*. 2013, Barbanera *et al*. 2016). Current science allows that with a small amount of tissue taken from the foot pad/toe pad (ca. 1mm³) or dry skin from the skull cavity (e.g. turbinates), it is possible extract DNA (Besnard *et al*. 2015). However, not all these samples are successful as natural post-mortem decay or preservative treatment decreases the success rate (Töpfer *et al*. 2011). These days, when fresh tissue samples are taken from specimens, they are kept frozen (Baker & Haiduk 1985). Ideally, researchers should conduct genome-scale screening of museum specimens to explore the evolutionary consequences of environmental changes (e.g. Bi *et al*. 2013) so that complete information becomes available to the researcher. Not only could DNA provide us with systematic information, it could also correct the identification of the specimen if necessary (e.g. Hebert *et al*. 2004, Barbanera *et al*. 2016). However, research material is currently threatened by an upsurge in destructive sampling requests resulting in only selective material being sent out from collections, creating new challenges for museum staff as they struggle to juggle requests and other priorities (e.g. Thomas 1994, Kruckenhauser & Haring 2010). As one bird does not represent the entire species, more samples are generally needed, in particular those from the type-specimens; material retained in birds' eggs could also be used for this (e.g. Lee & Prŷs-Jones 2008).

103 As illegal wildlife trade is a serious problem, collections of skins can provide supporting material to avian forensic studies (Ogden *et al*. 2009). With museum specimens to hand, the skins can help identify the species involved. Other related materials which could also be researched are whole or partial carcasses, oiled birds, skeletal remains, loose feathers, grafted items and crop contents. This type of research has been used in recent years to find out what was on the menu in particular restaurants (Roman & Bowen 2000), identifying natural materials used to make cloaks (Harwood 2011), identifying illegal imports of endangered species (Hsieh *et al*. 2003, Palsbøll *et al*. 2006, Peppin *et al*. 2008), identifying illegal species that had been hunted (Baker *et al*. 1996), crimes against birds (Gupta *et al*. 2005), assessing the impact of environmental disasters such as oil spills (Wang *et al*. 2009) and bird strikes in the aviation industry (Dove *et al*. 2009, Speller *et al*. 2011). Possible dinosaur feathers fossilised in amber could also be a new avenue of investigation (Xing *et al*. 2016).

104 The use of mass spectrometry in analysing the stable isotope ratios of bird tissues has become an important tool for research ornithologists since the early 1980s; this technique had already been used successfully by geologists for 30 years. Stable isotopes vary geographically and according to specific biological processes in the environment. The feathers sampled in the non-breeding birds reflect moulting and breeding locations from the previous summer. They therefore reflect the ratios in the environment during the time those tissues were constructed. An individual bird will bear within its body a record of its present and past exposure to different isotopic environments. Because the stable isotope ratios of specific elements vary geographically, such as hydrogen along oceanic or continental gradients and between habitats with nitrogen and carbon in marine environments, as opposed to terrestrial ecosystems, they offer a unique means of studying the ways migratory birds move between different parts of the planet and of understanding the habitats they exploit (e.g. Fox & Bearhop 2008: 112). Isotopes can be used in different fields of study such as linking breeding and winter ranges (e.g. Evans *et al*. 2003, Newton *et al*. 2006), assessing body condition (e.g. Graves *et al*. 2012), diet (e.g. Hobson 1987, Fujita & Koike 2007), origin (e.g. Font Morales *et al*. 2014), trophic niche breadth (e.g. Hobson & Montevecchi 1991, Hobson *et al*. 1994), lead contamination and diseases (Pain *et al*. 2007), food-web structure (e.g. Layman *et al*. 2011, Arcagni *et al*. 2012) and climate change (e.g. Goulet 2014).

105 There is a wide range of ways through which misinformation can spread across museum collections, including casual errors and careless labelling to commercial imprecision, incompetence due to inadequate training and/or supervision of collectors, incomplete specimens, inappropriate curatorial techniques, problems in deciphering and interpreting data and even fraud. Regrettably, detecting such errors can be extremely challenging (Rasmussen & Prŷs-Jones 2003, Boessenkool *et al*. 2010, Barbanera *et al*. 2016). Only when dubious collectors are involved, the specimen is a rarity and unconvincing collecting dates are given, is extra research undertaken (Knox 1993, Rasmussen & Collar 1999, Chilton & Sorenson 2007, Garfield 2007, Prŷs-Jones 2007, Lee & Prŷs-Jones 2008, Olson 2008, Prŷs-Jones *et al*. 2009, Boesekool *et al*. 2010, Jansen 2017d).

Labelling is very important (Hawks & Williams 1986a) and all kinds of problems have been experienced with data-poor labels, careless labelling, transcribing errors, substitution of facts, illegible handwriting, misinterpretation of original data and mistakes in sexing and ageing (Rasmussen & Prŷs-Jones 2003). Similar problems occur with the reliability of local collectors, commercial imprecision, untrustworthy collectors and frauds (Rasmussen & Prŷs-Jones 2003). Richard Meinerzhagen (1878-1967) donated no less than 25,000 specimens to the NHMUK in 1954. However, subsequent research revealed large-scale fraud involving theft and falsification. The birds Meinhertzhagen claimed to have collected matched those which had been reported missing from the NHMUK. Examination of the specimens' preparation style and DNA sequences of the stuffing fibres used inside them, matched the cotton used in other specimens prepared by the collectors of the stolen specimens (Rasmussen & Collar 1999).

Unfortunately, burglaries and the theft of museum specimens have also taken place within the last 50 years, with 10,000 eggs being stolen by Mervyn Shorthouse from the NHMUK in the late 1970's (Walters 2005: 15-17) and feathers of two Huia *Heteralocha acutirostris* specimens being stolen from Dannevirke Gallery of History, New Zealand in March 2012. A 45-year old man raided the museums in Basel and Neuchatel in Switzerland, as well as those in Munich, Stuttgart, Frankfurt and Berlin in Germany, and Vienna, Austria; he stole more than 10,000 feathers and caused damage valued at $6,346,161. The Basel court found him guilty of aggravated theft and damage to property between 2005 and 2012 and sentenced him to three years imprisonment in July 2017. In June 2009, 299 skins were stolen from the NMUK by Edwin Rist; he was later convicted.

It remains difficult to estimate the monetary value of museum collections (Nudds & Pettitt 1997). In November 2016, a Dodo skeleton was sold for $431,341 at a UK auction, an egg from the Elephant Bird *Aepyornithidae ssp.* sold for $101,813 in November 2013 and a feather from a Huia was sold for $4,900 in June 2010.

106 It has been proven that x-ray computed tomography to visualize internal morphology can shed light on the taxidermy style, the original taxidermist and provide anatomical data (Rasmussen & Collar 1999, Steinheimer 2006a, Steinheimer & Jansen 2017). It has also been proven that the technique does not fragment DNA preserved in bird skins (Paredes *et al*. 2012). It is possible to establish which skeleton parts are inside and how these parts were cut. The use of arsenic powder or soap can be established if the right exposure settings are used. It is also possible to examine the internal wiring and the material used in the external body to ascertain whether it has a hard or soft body and which parts are stuffed (Rasmussen & Collar 1999, Steinheimer 2006a, Steinheimer & Jansen 2017). Work with portable x-ray fluorescence (XRF) has been executed in recent years to detect potentially harmful pesticides such as arsenic and mercury in specimens (Bacon *et al*. 2010). However, to ascertain the prevalence of arsenic and other chemicals in birds, hand-held analysers are easier to use and are more reliable (Desjardins 2016). The x-ray settings are critical and maintaining their uniformity is a huge challenge if different collections and machines are used.

107 The questions raised in modern times are very different to those which drove the collections in the mid-1900s, which in turn differ from those behind the collecting in the mid-1800s. These days, scientists seek to obtain much more data about a specimen (Aubrecht & Malicky 2010, Steinheimer 2010, Winker 2000). Today, the entire specimen can be used for a variety of different studies such as mouth and cloaca swabs for bacteria and viruses, blood tests for DNA, skeletons for ageing and 3D-modelling, feathers for researching parasites, lice and isotopes, organs, including the brain, for measuring heavy metals and pollutants, karyotype slides for researching the understanding of chromosome structures, stomach contents to establish diet and morphometrics for identification purposes. In 2017, information is required on sex, gonad dimensions, weight, ageing information, fat condition, stomach contents, colour of soft parts, moult (extent and localization), collection location habitat (with photos), photos of the soft-part colours as specimens can fade, reference to tissue numbers, skeletal components, wingspan (photos), DNA-sample, audio recording and a list of parasites. A current dilemma is whether some of the skeletal parts should be kept in the study skin or whether the skeleton should remain complete.

It is not known where the future will take us, which technical possibilities will become available, which new questions will need answering and what material needs to be retained and examined, so there will be plenty for tomorrow's scientists to discover and adapt to.

**3.2**

[1] This expedition is not mentioned in Steinheimer (2005: 52-53). However, 210 specimens were present on 1 January 1809 (Archives du labaratoire de zoologie (Mammifères et Oiseaux) du MNHN: Dufresne Ms list), 129 birds entered the acquisition books starting in 1854 and 96 birds could be found in MNHN in 2013 (including 17 type specimens). A few specimens have been located so far (July 2014) in other collections, e.g. Leiden (Temminck 1807; at present 9 specimens), Edinburgh (Dufresne 1818; 22 specimens arrived), Museo regionale di Scienze Naturali di Torino, Turin, Italy (at least one bird was sent on 12 October 1812 by exchange) and Vienna (Naturhistorische Museum Wien, Vienna, Austria: Acquisition book 1 (1815): 88-97; 9 specimens arrived). Specimens also ended up in various "university" collections in France (cf. Moulins and Rouen etc.) and in other collections by exchange or personal donations by Maugé (e.g. to Baillon, Christophe Gouraud *in litt*.; 4 birds remain today). Brown (2004) mentions that 450 birds arrived at MNHN on 28 July 1798.

[2] Birds are documented - on labels, pedestal inscriptions, or in acquisition books - with the date "an XI." This implies the 11th year after the French revolution = 23 September 1802 – 22 September 1803 (Black *et al*. 2013: 27-28).

[3] Birds are documented - on labels, pedestal inscriptions, or in acquisition books - with the date "an XII". This implies the 12th year after the French revolution = 23 September 1803 – 22 September 1804 (Black *et al*. 2013: 27-28).

[4] After Maugé became ill, 31 birds where collected during the leg from Bruny Island to Sydney (Collection Lesueur, MHNH 21003). They were collected at Bruny Island (20), Maria Island (2), at sea off the southeast coast of Australia (2), at sea 43° latitude (west-southwest of Tasmania) (1), at sea 44° latitude (southwest of Tasmania) (2), Furneaux Island (Bass Strait) (1), and elsewhere in the Bass Strait (3). The original collector is Lesueur, and only 'new' species (per Péron) can be found at this list; so, more birds where most likely collected (as indicated by some specimens in MNHN and one at La Châtre).

[5] On the second leg of the expedition (Collection Lesueur, MHNH 21002) birds were collected at King Island (25 birds), Kangaroo Island (12), King George Sound (10), southwest Australia (1), Shark Bay (2), between Shark Bay and Timor (2), between Timor and Australia (1), the north coast of Australia (20) and between Timor and Mauritius (17). The last section (from Timor to Mauritius) is documented by Péron (Collection Lesueur, MHNH 21033).

[6] A large portion of the specimens secured on the Baudin expedition are documented as "Péron et Lesueur"; however, this is due to their packing activities in Sydney as well as their unpacking the second load at Lorient / Le Havre in 1804. Their names do not necessary mean that they were the original collectors; as explained in the "Collectors" section, Péron probably did not collect any birds at all.

[7] Lesueur is known to have 'skinned' all these specimens, but it is unknown if he was the original collector (Girard 1856: p. 34, 45); therefore, no collector is included. Specimens were collected in the Sydney area.

[8] Lesueur may have been helped by George Caley (1770-1829) or William Paterson (1755-1810): this per Stresemann (1951a: 69); however, there are no notes on this by Péron (Collection Lesueur, MHNH 21001). Per Starbuck (2009b: 184), birds where purchased in Sydney and H. Weld Noble (from the Brig Fanny) donated two birds to Baudin (Starbuck 2009b: 135, 184-185).

[9] Dated 23 September 1801 in Louis Dufresne's notes (Archives du laboratoire de zoologie (Mammifères et Oiseaux) du MNHN: Ms). This is either the date the load arrived at MNHN or arrived at Port Louis or was dispatched from India to Port Louis by Macé. The same date is found by Péron (Collection Lesueur, MHNH 21003) from the first leg of the expedition. Dufresne mounted specimens on 18 July 1804 and amongst them was "1 Coucou du Bengal pour le Corvette le Géographe" clearly indicating Macé's specimens went to France with *Le Géographe*.

[10] Not mentioned by Steinheimer (2005a: 52-53), but 39 specimens still survived in 2013. Most likely they were collected prior to 1800.

[11] Amongst these few are noted (Collection Lesueur, MHNH 21001): Aveline (unknown amount of items from Mauritius), Nils Bergsten (1769-1852; one item from Mauritius), Charles-Mathieu-Isidore Decaen (1769-1832) (donated some living mammals and a Southern Cassowary (caught at the Moluccas, and transported by Simon Nicolaasz Dekker (1757-1824) as other species from Sumatra and New Guinea), van Esland (7 items), Hesse (insects from the Cape), Jérôme-Frédéric Lamarche (*Corvette Diligent*) (14 items most from the Comores), Lislet (two items), Malavoix (included mammals, reptiles, fish, insects etc. from various countries), Milbert (four items from Mauritius), Pieter Heinrich Polemann (1779-1839; living Secretarybird, later turned into a

skeleton, a turtle and a reptile from the Cape) and Ravelet (Collection Lesueur, MHNH 21035).

12 Spotted Quail-thrush and Superb Lyrebird (Bowden 1952: 73, 83).

13 Overall, 15 specimens still survive (2013). Not mentioned separately in Collection Lesueur, MHNH 21036. In the cited manuscript (Dufresne) is mentioned from the 30 birds 20 birds are mounted for the galleries.

14 A list – in an unknown hand – present at Le Havre lists 766 specimens from 248 species (Collection Lesueur, MHNH 21005). Another list mentions 895 specimens from 288 species (Collection Lesueur, MHNH 21038), and yet another list mentions 930 birds (Collection Lesueur, MHNH 21018) and a list mentions 803 birds (Archives du laboratoire de zoologie (Mammifères et Oiseaux) du MNHN: Ms). Girard (1856: 134) mentions 803 birds from 279 species being collected on the journey. "Nearly 1000 bird's skins" are mentioned by Bartle (1993).

15 Per Jouanin (2002), Baudin mentions that there were 50 living birds present when *Le Géographe* stopped at Timor the second time, but Baudin (Archives Nationales 5/JJ/35: 569, Pfenigwerth 2013: 202) mentions that 54 birds died between Timor and Paris (all Australian species); however, the discrepancy is explained by the acquisition of more live birds at Mauritius and Cape Town. At *Le Géographe*, 15 living birds arrived in France (Geoffroy Saint-Hilaire 1804): at 7 February 1804 (Collection Lesueur, MHNH 21006), however, only 38 birds (19 species) are listed. The list dated 26 June 1804 (Collection Lesueur, MHNH 21036) mentions 'only' 19 living birds.

16 In 1854, the start date of acquisition books in MNHN, there were still 340 specimens present in MNHN; however, 'only' 258 specimens remained in 2013 (including over 113 type specimens).

17 At least 3 specimens were sent to Bullock as part of an exchange on 31 August 1814 (*Pittacus, Cacatua* and *Phaethon*).

18 Indicated by a specimen (Cape Petrel MLC.2010.0.260) from the Baudin expedition in the Baillon collection donated by Pierre-Antoine Delalande (1787-1823) (Christophe Gouraud *in litt.*).

19 In 1815 a large shipment of bird specimens arrived at the museum, indicated as "aus dem königl. Naturhistorischen Museum zu Paris gegen Tausch erhalten" ["received in exchange from the Royal Natural History Museum in Paris"] (Naturhistorischen Museum Wien, Vienna, Austria: Acquisition Book 1: 88-90). A total of 122 specimens from 103 species were sent to Vienna, some originating from the Baudin expedition. Approximate 50 specimens are collected at the Baudin expedition; some arrived directly via MNHN others via Bécoeur and Dufresne. In Levaillant (1806: 67) a Pied Currawong, surely originating from Baudin's expedition, is mentioned in Dufresne's private collection.

20 85 specimens received (Collection Lesueur, MHNH 21036, Archives du laboratoire de zoologie (Mammifères et Oiseaux) du MNHN: Nº 180), which made up part of the 41 cases of birds (Grand-jean 1966: 260 (lot 2662), Jouanin and Benoit 1997). Are they disposed when the inventory was sold in 1829 (Horner 1987: 364) or premature to this date?

21 In 1812 and possibly also in 1814, specimens arrived in bad condition, and it remains unknown what entered the collection. In 1854, under the leadership of professor Balsamo Crivelli, all the pedestals were changed for the sake of uniformity and the original labels were changed, resulting in the loss of information. To date only a single bird survives from the Baudin expedition, a white morph of the Grey Goshawk (Carlo Violani and Stefano Maretti *in litt.*).

22 Part of the Italian shipment (now in Bologna) from 12 October 1812 might still be present (Journal Commencé le premier Janvier 1759. Archives du laboratoire de zoologie (Mammifères et Oiseaux) du MNHN: 87-96). It was shipped at first to Milan, and then spread to Bologna and Padua.

23 63 and 56 specimens from the Baudin expedition ended up in Moulins and Rouen, respectively (it is unknown to what institute or university they were sent, or if they are still present) (Journal Commencé le premier Janvier 1759". Archives du laboratoire de zoologie (Mammifères et Oiseaux) du MNHN: 80, 86).

24 See Levaillant (1805) male 28 Parrot *Platycercus zonarius semitorquatus* (p. 8) and a male + female Little Lorikeet (p. 69).

25 Like in Levaillant (1805: 28) the male + female 28' Parrot; this bird can only be found in Western Australia, and to that date the Baudin expedition collected there.

26 Between 1856-2013: 15 birds were destroyed and 8 birds were used for exchange (last in 1951).

27 Individual birds like the Blue-throated Roller mentioned in Levaillant (1806: 152-153) and Voisin & Voisin (2008: 16-17), this is the single specimen from Senegal, West Africa, at the whole of the expedition, but from what source? Was it in the recovered case from the earlier expedition by Baudin, recollected on 8 November 1800 (Baudin 1974: 27)?

**3.3** [1] In the chapter TAXIDERMY, the last line to the introduction was added. In 1803, 14, 27 September, 5, 6-12, 12-18 October, 15-28 December are added. Additions are made for 13-20 July the Fairy-wren was added, 2 August the ID of the pigeon was changed, 8-14 September the last part in brackets was added, 3-9 November the Stork, raptor, owl and Australian passerine are added, 17-21 November some birds are identified (gull, booby, White Ibis and Night-heron), 22-27 November has an identification of a duck. Additions are made for 29 December 1803-4 January 1804, as the Spoonbill and Firetail are identified. In 1804, 7, 14 March, 5-11 July and 4-12 December are added. Additions are made for 28 April has two revised identifications (ducks and owl), 23-30 May has a revised identification (Dove), 13-20 June has two revised identifications (corella & guineafowl), 12-19 July has switched the Mascarene Martins with 28 June-4 July, 8-15 August has two lines added, 24-29 August has the two Secretarybirds that were first at 16-23 August, 17-24 October identified the Silver Gull and added the fairy-wren, 7-14 November added Grey Goshawk. The name Mlle. Charpentier was corrected, also René Maugé (de Cely is deleted) is corrected. Style is made uniform with the rest of the dissertation, minor grammar corrections, and the references are made uniform e.g. Archives Nationas and MNHN, and for the weekreports the source is added in brackets. And in the abstract the years of the Baudin expedition are corrected to 1800-1804 (instead of 1834).

**3.4** [1] Maugé was the prime collector until his death at Timor. According to Baudin, Maugé had already collected '200 new birds' up to Timor (Archives MNHN Paris; Ms 2126, letter 4 by Nicolas Baudin from 5 October 1801). Lesueur collected another 200 specimens in the Sydney region alone (Caley 1966: 52, Finney 1984: 113, Starbuck 2009b: 184). The specimens secured by Levillain were sold onboard (Baudin 1974: 33; Collection Lesueur, MHNH 07008), and could be purchased by anyone. François Péron - the best-known naturalist from the Baudin expedition - did not collect any birds at all.

[2] Étienne Geoffroy Saint-Hilaire to the director of the museum dated 29 June, Archives Nationales AJ/15/590.

[3] See note 2.

[4] The other known collector at Dalrymple Bay was Robert Brown, who collected two specimens (12 overall in Tasmania) during a brief sojourn there between 1 and 17 January 1804 (Vallance *et al*. 2001). Von Fichtel purchased at least 30 birds from Australia from Latham at the Leverian auction (Bauernfeind 2004: 557), some of which may be specimens from Robert Brown, as both men knew each other (Bauernfeind 2004:557).

[5] Six still extant to date: Pallid Cuckoo are LIVCM D3945 and LIVCM D3993, Maned Duck LIVCM D897b, Azure Kingfisher LIVCM D1619, Nankeen Night-heron LIVCM D2767 and 2767b.

[6] A Catalogue of a portion of the Natural History collection of Linnean Society of London, Sold by order of the Council, and confirmed by a General Meeting of the Society, consisting of Shells, Birds, Insects, Horns, Herbariums from all parts of the World, and a variety of other natural History Specimens. Which will be Sold by auction, by Mr. J. C. Stevens, at his Great Rooms, 39, King Street, Convent Garden, on Tuesday, the 10th day of November, 1863, at Half-past Twelve o'clock precisely. In the sale catalogue kept at the Linnean Society London (Ms Nº 670), at page 7-8 (lot 102-126), annotations in pen, they specimens were purchased for 24,16 all were 'spiritedly set up in mahogany frame glazed cases'.

[7] Type specimens (including synonyms) from Caley according to Warren (1966) and Warren & Harrison (1971): Pallid Cuckoo (synonym *Cuculus albostrigatus* BMNH 1863.7.7.59), Pallid Cuckoo (synonym *Cuculus inornatus* BMNH 1863.7.7.58), Pacific Koel *Eudynamys orientalis* (synonym *Eudynamys flindersii* BMNH 1863.7.7.64), Yellow Thornbill *Acanthiza nana* (BMNH 1863.7.7.25), Rufous Songlark (synonym *Anthus rufescens* BMNH 1863.7.7.34), Grey Shrike-thrush (synonym *Colluricincla cinerea* BMNH 1863.7.7.18a), Australian Raven (BMNH 1863.7.7.50), Brown Songlark *Megalurus cruralis* (BMNH 1863.7.7.29b), Jacky Winter *Microeca fascinans* (synonym *Myiagra macroptera* BMNH 1863.7.7.48), Leaden Flycatcher *Myiagra rubecula* (synonym *Myiagra plumbea* BMNH 1863.7.7.47), Australian Golden Whistler (synonym *Pachycephala fusca* BMNH 1863.7.7.40), Rufous Whistler (synonym *Pachycephala striata* BMNH 1863.7.7.39), Satin Bowerbird (synonym *Ptilonorhynchus macleayii* BMNH 1863.7.7.51a) and Silvereye *Zosterops lateralis* (synonym *Zosterops dorsalis* BMNH 1863.7.7.28).

[8] Robert Brown archives, Z 1 (as described in Wheeler 1993) archives NHMUK, accessed at 19 June 2015.

[9] New Holland Birds, collected by RB (= Robert Brown). Given to M. Leadbeater to be set up for

the Linnean Society's Collection, Aug. 15 1818 (this list is contained in NHMUK). Incorrect is the reference given by Mabberley (1985: 129-130), that in 1816 already 85 specimens to the NHMUK and 76 to the Linnean Society of London were donated, because only circa 150 birds were brought back (Vallance *et al*. 2001: 13).

[10] Although Bauer was amongst the very few collectors of bird-specimens at Norfolk Island, there were more specimens floating around like those in C. J. Temminck's collection, as he had two Norfolk Island Pigeons *Hemiphaga novaeseelandiae spadicea* (RMNH.AVES.110112 and RMNH. AVES.87749) (Temminck 1807: 143) both arriving before 1803 (Temminck Ms dated 1803-1804 and kept in the Naturalis archives, p. 28).

[11] The Red Lory *Eos bornea* (NMW 49.797) may be a present from the Baudin expedition to Bauer. When Flinders met Baudin at Encounter Bay on 8-9 April 1802 birds were donated to the Baudin expedition and visa versa (Collection Lesueur, MHNH 21002, N° 32).

[12] List Collection Lesueur, MHNH 21111 shows 125 specimens donated to Rouen from: Tenerife (1), India (1), Carolina (2), France (20), Australia (17), Guinee (1), Unknown (18), Cayenne (34), Spain (1), Maurice (2), Amerika (14), Timor (6), Europe (1), Africa (2), South Africa (4) and Egypt (1). Only 30 are designated to locations visited by the Baudin expedition.

List Archives Nationales AJ/15/596 (23 April 1806) and Collection Lesueur, MHNH 21114 show 152 specimens donated to Rouen, and 56 are designated to the Baudin expedition on genus level (personally donated by Charles-Alexandre Lesueur). These are: *Psittacus* (3), *Cuculus* (1), *Oiseaux de Proye* (1), *Lanius* (2), *Muscicapa* (1), *Turdus* (1), *Oriolus* (1), *Loxia* (6), *Gracula* (1), *Parus* (1), *Motacilla* (1), [illegible] (1), *Sucrier* (2), *Buceros* (1), *Alcedo* (2), *Merops* (1), *Columba* (4), *Perdix* (1), *Diomedia* (2), *Anas* (5), *Sterna* (1), *Goeland* (4), *Recurvirostra* (1), *Carbo* (1), *Sula* (1), *Ardea* (4), *Scolopax* (2), *Para* (1), *Charadriae* (1), *Poule de Sultane* (1), *vu Autro Oiseaux* (1).

[13] List Archives Nationales AJ/15/596 (23 April 1806) shows 152 specimens donated to Lycée de Moulins personally by François Péron, and 63 are designated to the Baudin expedition on genus level: *Psittacus 6, Bucco 1, Cuculus 1, Muscicapa 2, Turdus 5, Sturnus 1, Loxia 7, Corvus 1, Suerier 2, Buceros 1, Alcedo 2, Merops 1, Drongo 1, Columba 3, Perdix 2, Diomedia 2, Anas 3, Sterna 1, Recurvirostra 2, Carbo 1, Sula 1, Ardea 5, Scolopax 1, Hydrogallus 2, Para 4, Charadrius 2, Goeland 2.*

[14] MNHN origin of the specimens is proved due to the presence of two Puerto Rican emerald *Chlorostilbon maugeaus* (1815.XXXVII.283 & 283a), a species described by Audebert & Vieillot in 1801 based on specimens collected by the Baudin expedition the Caribbean (1795-97) at Puerto Rico, a location not visited by any other expedition up to 1815.

[15] The 1815 load included a heron from St Thomas (part of Baudin's Caribbean expedition) to the NMW (1815.XXXVII.6).

[16] In his load a Scaly-naped Pigeon (1815.XXXVII.219) from the Caribbean Baudin journey and the Rainbow Bee-eater (1815.XXXVII.214) was even labelled as from the Baudin expedition.

[17] Amongst the birds a Red-necked Avocet (1815.XXXVII.121) that was surely part of the multiply specimens contained in the MNHN that arrived with the Baudin expedition.

[18] Like Short-billed Cockatoo (Johnstone *et al*. 2014) and possibly the Fan-tailed Cuckoo (MNHN A.C. 1905) that arrived back in 1818 in the MNHN had also a Baudin expedition origin.

[19] A fair number of species noted in footnote 13, are lacking from Caley's annotations of birds (Caley 1966: 211-220).

[20] For example Pied Butcherbird (ZMB 1900, 1901), Superb Fairy-wren *Malurus cyaneus* (ZMB 4258), Southern Emu-wren (ZMB 4255), Black-faced Cuckoo-shrike (1904, 1905), Noisy Friarbird (ZMB 7792), Blue-faced Honeyeater (ZMB 7798), Brush Wattlebird (ZMB 7803), Bell Miner (ZMB 7854, 7855), Red Wattlebird (ZMB 7862, 7863, 7864), Yellow-tailed Black Cockatoo (ZMB 9759), Eastern Rosella (ZMB 10013), Rainbow Lorikeet *Trichoglossus moluccanus* (ZMB 10068), Little Lorikeet (ZMB 10083), Swift Parrot (ZMB 10088), Eastern Ground Parrot (ZMB 10102), Shining Bronze-cuckoo (ZMB 10797, 10780) and Cape Barren Goose (ZMB 13768).

[21] Specimens that arrived in 1824 are: Brown Goshawk (ZMB 543), Southern Boobook (ZMB 1319), Australian Magpie (ZMB 1494), Pied Currawong (ZMB 1586), Superb Fairy-wren (ZMB 4240), Variegated Fairywren (ZMB 4246), White-eared Honeyeater *Meliphaga leucotis* (ZMB 7828), Red -tailed Black Cockatoo (ZMB 9755, 9758), Gang-gang Cockatoo (ZMB 9764), Shining Bronze-cuckoo (ZMB 10796), Wompoo Fruit-dove *Megaloprepia magnifica* (ZMB 11116) and Pacific Gull (ZMB 13581).

[22] Watkin Tench (1758– 1833) shot an Emu in July 1788, that was sent by Governor Arthur Phillip to Thomas Townshend (1733–1800), in spirits. Sydney presented the skin to Joseph Banks, who gave it to John Hunter (this skin was destroyed in WW II) (Whittell 1954: 24, Finney 1984: 42).

Three live Emus were shipped at the *Buffalo* to Banks in 1801 (Whittell 1954: 24).

[23] Not only two Black Swans but also three Emus arrived alive; see note 15.

[24] He collected several birds like Friarbird, Sacred Kingfisher, which were all sent to Thomas Wilson (1762-x) in London, England (Finney 1984: 48). Most other specimens sent to England ended up in the Lever Museum (Finney 1984: 56, van Grouw & Hume 2016). At least 27 species, depicted in White (1790), of which 13 described by Shaw (1790).

[25] Nine stuffed birds and two living parrots were sent at the end of 1788 to Joseph Banks (Finney 1984: 49).

[26] Part of his collection was purchased by the 13th Earl of Derby at the auction from his collection at 6 & 8 June 1812. Part of these birds ended up in the Liverpool Museum (Clem Fisher *in litt*. 30 November 2016). In an extract from the auction from June 1812 held in Liverpool, Australian species, all collected in the Port Jackson area, are mentioned: Gang-gang Cockatoo (cat. no. 310, still present), Superb Fairy-wren (cat. no. 384), Crimson Rosella (cat. no. 399) and *Strix* (cat. no. 403).

[27] Two live pigeons were sent to Lady Chatham in 1790 (Finney 1984: 57). And more as seen in Davies (1798), as he contributed this species as Nicholas Napean (1757-1823).

[28] Captain Philip Gidley King (Velum catalogue 9.103.a) donated an Australasian Figbird to the NHMUK, possibly via Joseph Banks who received (12+) specimens collected at the *Lady Nelson* from a trip into the Bass Strait and the Coal River in 1801 (Finney 1984: 90-91).

[29] No birds survive from this expedition (Storrs Olson *in litt*. 18 June 2014).

[30] Van Cleef & Schreurleer (1797) auctioned: Southern Boobook (p. 8), Red-tailed Black Cockatoo (p. 9), Crimson Rosella (p. 10) and Musk Lorikeet (p. 11).

[31] Rookmaker (1994) mentions: Regent Honeyeater (Levaillant 1801-04 (3): 48), Southern Emu-wren (Levaillant 1803-04 (3): 86-87), Pheasant Coucal (Levaillant 1807 (5): 64-65) from Australia.

[32] François Levaillant brought home roughly 2.000 birds from his African journey in 1781-84, but only 8+ survive in MNHN (Jansen 2015a: 88) while in 1807 only 61 birds still survived in Temminck's private collection (Temminck 1807, Jansen 2017a). No inventory has yet been made what is remaining at Naturalis or other museums to date.

**3.5** [1] References to Archives Nationales and MHNH are corrected (in line with the rest of the dissertation) and the same applies for Nouvelle Hollande (the hyphen is deleted). The names of Jean-Louis Vieillot and Mlle. Charpentier are corrected. Stresemann 1953 in *Nisus australis* & *Falco torquatus* = Stresemann 1922. The wording of the identifcation of *Nisus australis* has changed: Their identification as *A. fasciatus* is based on the rounded tip of the tail and the position of the 1st knuckle on the outer and middle toes, which are longer than *cirrocephalus* (Menkhorst *et al.* 2017). 3.8. 1 The latin name as given by Whittell for Grey Fantail is incorrect.

**3.9** [1] Altered is the style (e.g. hypenated, and the Le Havre without accents and Voisin & Voisin, USA with no fullstops). Added is the Redwing from Louis XVI (the first years up to 1793). In 1793-1799, the LeVaillant part formerly in 1804 is replaced to 1797. The number of surviving specimens collected by Maugé in the Caribbean is set to 105. A line is added to the part were Joseph Banks is discussed. Added to Dufresne are his two visits to the UK. In 1801, the shipment as previously discussed in 1804 by Mace, is added, and deleted in 1804. To 1802 a line is added. In 1804, the number of surviving specimens from the Baudin expedition is corrected from 258+ to 281+, same applies for the number shipped from Mauritius (was 30 now 38) and instead of 15, 18 survive. Also, some info was added to the Mace part, part was deleted, and the survivors are 21 instead of 39. For 1813, all Sonnerat specimens were added to the footnote, and the text was slightly altered as there are 30 survivors. For 1816, some information in footnote was added from the origin of 1807 Black Bittern. For 1817, a small shipment by van Spaendonk was added. For 1821, the load of delaSusse is more detailed. In the chapter 'private donations' a line on Mirbel is added. To the loads sent to Moulins and Rouen in chapter 'schools', there is some info added in the endnote. Back = corrected in Bach. And for Goudot the species is added in the note (Dominique Malécot *in litt*.), and in note 148 on this bird some extra information is given. Correct name given for Guillaume-Florent Prévost (1794-1870). Geoffroy is corrected in Geoffroy Saint-Hilaire. Footnote 71 changed in wording.

[2] See appendix 1.

[3] Great Black hawk *Buteogallus urubitinga*.

[4] E.g. Whiskered Myiobius *Myiobius barbatus* and Spot-winged Antbird *Myrmelastes leucostigma*.

[5] Mascarene Swiftlet *Aerodramus francicus*. The beautiful perruche from Tahiti remounted at 21 October 1804 was from this expedition, but is not present anymore.

[6] E.g. two Black Woodpeckers *Dryocopus martius*, Snow Goose *Chen caerulescens* and seven hummingbirds.

[7] E.g. Little Cuckoo *Coccycua minuta* (Voisin & Voisin 1999: 393-394).

[8] E.g. Bicoloured Hawk *Accipiter bicolor* (Voisin & Voisin 2001a: 183), Black-and-white Hawk Eagle *Spizaetus melanoleucus* (Voisin & Voisin 2011b: 627-628), Black-bellied Cuckoo *Piaya melanogaster* (Voisin & Voisin 1999: 393), Gray-lined Hawk *Buteo nitidus* (Voisin & Voisin 2011b: 622), Pied Puffbird *Notharchus tectus* (Voisin & Voisin 2009: 127), Rufous Crab Hawk *Buteogallus aequinoctialis* (2) (Voisin & Voisin 2011b: 622-623), Short-tailed Hawk *Buteo brachyurus* (Voisin & Voisin 2011b: 625) and White Hawk *Pseudastur albicollis* (Voisin & Voisin 2011b: 622).

[9] E.g. Agami Heron *Agamia agami* (Voisin & Voisin 1996: 600-601), Crested Owl *Lophostrix cristata* (Voisin & Voisin 2011a: 21-22), Guianan Toucanet *Selenidera piperivora* (Voisin & Voisin 2009: 138), Pale-vented Pigeon *Patagioenas cayennensis* (Voisin *et al*. 2005: 846), Ruddy Pigeon *Patagioenas subvinacea purpureotincta* (Voisin *et al*. 2005: 847-848) and Yellow-crowned Night Heron *Nycticorax violaceus* (Voisin & Voisin 1996: 606-607).

[10] E.g. Bearded Woodpecker *Chloropicus namaquus* (Voisin & Voisin 2010a: 21), Brubru *Nilaus afer*, Great Barbet *Psilopogo virens* (Voisin & Voisin 2009: 131-132), Jacobin Cuckoo *Clamator jacobinus* (Voisin & Voisin 1999: 391), Javan Coucal *Centropus nigrorufus* (Voisin & Voisin 1999: 390), Narina Trogon *Apaloderma narina* and Pale Chanting Goshawk *Melierax canorus* (Voisin & Voisin 2011b: 623).

[11] E.g. Collared Lory *Phigys solitarius* (Voisin & Voisin 2008a: 491), Superb Parrot *Polytelis swainsonii* and Rainbow Lorikeet (Voisin & Voisin 2008a: 490-491).

[12] E.g. Northern Mockingbird *Mimus polyglottos*.

[13] E.g. Senegal Coucal *Centropus senegalensis* (destroyed in the 1880s).

[14] Brown-throated Wattle-eye *Platysteira cyanea*.

[15] See Appendix 2.

[16] Little Lorikeet and Yellow-tufted Honeyeater.

[17] E.g. Bateleur *Terathopius ecaudatus*.

[18] E.g. Black-winged Kite *Elanus caeruleus*, Grey Plover *Pluvialis squatarola*, Blue-cheeked Bee-eater *Merops persicus* (type) and Desert Eagle Owl *Bubo ascalaphus* (Voisin & Voisin 2011a: 18).

[19] Western Reef Egret *Egretta gularis*.

[20] Little Owl *Athene noctua bactriana* (Voisin & Voisin 2011a: 23), Slender-billed Curlew *Numenius tenuirostris* (Voisin & Voisin 2012: 43-44) and Three-banded Plover *Charadrius tricollaris*.

[21] E.g. Levaillant's Cuckoo *Clamator levaillantii*, Pallas's Gull *Ichthyaetus ichthyaetus* and White-tailed Lapwing *Vanellus leucurus* (Voisin & Voisin 2012: 32).

[22] E.g. Andalusian Hemipode *Turnix sylvaticus*, Houbara Bustard *Chlamydotis undulata* and Little Bustard *Tetrax tetrax* (both from Barbary).

[23] Black-faced Waxbill *Estrilda erythronotos* (type).

[24] E.g. Dollarbird *Eurystomus orientalis* from Australia and Indian Grey Hornbill *Ocyceros birostris* from Calcutta.

[25] E.g. six sunbirds from Angola are present.

[26] E.g. African Pitta *Pitta angolensis* (type), Gorgeous Bush-shrike *Telophorus viridis* and five sunbirds.

[27] E.g. Rosy Bee-eater *Merops malimbicus* (Voisin & Voisin 2008b: 14-15).

[28] E.g. Paradise Jacamar *Galbula dea*.

[29] E.g. Grey-breasted Crake *Laterallus exilis*.

[30] E.g. a Barn Swallow *Hirundo rustica*.

[31] E.g. Baillon's Crake *Porzana pusilla*.

[32] E.g. African Finfoot *Podica senegalensis* (Voisin & Voisin 2015: 68).

[33] E.g. Brown Eared Pheasant *Crossoptilon mantchuricum*.

[34] See Appendix 3.

[35] E.g. Mauritius Kestrel (Voisin & Voisin 2002: 479).

[36] E.g. Black-rumped Flameback *Dinopium benghalense* (Voisin & Voisin 2010a: 13), Blue-throated Barbet *Psilopogon asiaticus* (Voisin & Voisin 2009: 135), Fulvous-breasted Woodpecker *Dendrocopos macei* (2) (Voisin & Voisin 2010a: 19-20), Little Cormorant *Microcarbo niger* (Voisin 1992: 163) and Yellow-legged Green Pigeon *Treron phoenicopterus* (Voisin *et al*. 2004: 112).

[37] E.g. Northern Hawk-owl *Surnia ulula*, Ruff *Philomachus pugnax*, and Lapland Bunting *Calcarius lapponicus* from Sweden, but also African birds like Black-crowned Tchagra *Tchagra senegalus*.

[38] Indian Peafowl *Pavo cristatus*, might be a gift from the Japanese Emperor.
[39] E.g. Tasman Native Hen *Tribonyx mortierii*.
[40] E.g. Oriental Honey Buzzard *Pernis ptilorhynchus* (Voisin & Voisin 2001a: 175-176), Lesser Coucal *Cetropus bengalensis* (Voisin & Voisin 1999: 396).
[41] E.g. Lesser Noddy *Anous tenuirostris*.
[42] E.g. White-browed Guan *Penelope jacucaca* (Voisin *et al*. 2015: 5-6).
[43] E.g. Lesser Antillean Saltator *Saltator albicollis*.
[44] E.g. Barred Forest Falcon *Micrastur ruficollis* (Voisin & Voisin 2002: 475-476), Bicoloured Hawk *Accipiter bicolor pileatus* (Voisin & Voisin 2001a: 187), Black Caracara *Daptrius ater* (Voisin & Voisin 2002: 473), Rufous-capped Motmot *Baryphthengus ruficapillus* (Voisin & Voisin 2008b: 15), Scaled Dove *Patagioenas squammata* (Voisin *et al*. 2005: 853), Scarlet-crowned Barbet *Capito aurovirens* (Voisin & Voisin 2009: 134-135), Tiny Hawk *Accipiter superciliosus* (Voisin & Voisin 2001a: 181-182), Wattled Curassow *Crax globulosa* (Voisin *et al*. 2015: 3), White-tipped Dove *Leptotila verreauxi brasiliensis* (Voisin *et al*. 2005: 859-860) and Yellow-fronted Woodpecker *Melanerpes flavifrons* (2) (Voisin & Voisin 2010a: 16).
[45] E.g. Channel-billed Toucan *Ramphastos vitellinus* and Vulturine Parrot *Pyrilia vulturina*.
[46] E.g. Ortolan Bunting *Emberiza hortulana* (destroyed in 1885).
[47] E.g. Montagu's Harrier *Circus pygargus* (Voisin & Voisin 2001a: 179).
[48] E.g. Baillon's Crake.
[49] E.g. Lesser Spotted Eagle *Clanga pomarina*.
[50] E.g. Bonaparte's Gull *Chroicocephalus philadelphia*.
[51] Eurasian Bittern *Botaurus stellaris*.
[52] E.g. White-throated Rail *Dryolimnas cuvieri* (Voisin & Voisin 2015: 66-67).
[53] E.g. Oriental Dwarf Kingfisher *Ceyx erithaca* (2) (Voisin & Voisin 2008b: 10-11).
[54] E.g. Mauritius Blue Pigeon (Voisin *et al*. 2004: 118-119), Seychelles Blue-pigeon *Alectroenas pulcherrimus* (Voisin *et al*. 2004: 119-120), Eastern Koel *Eudynamys orientalis*, Western Koel *Eudynamys scolopaceus*, Banded Bay Cuckoo *Cacomantis sonneratii*, Oriental Pratincole *Glareola maldivarum*, Greater Painted-snipe *Rostratula benghalensis* (Voisin & Voisin 2012: 29), Cattle Egret (Voisin & Voisin 1996: 600), Pied Harrier *Circus melanoleucos*, Cinereous Harrier *Circus cinereus*, White-browed Owl *Athene superciliaris* (Voisin & Voisin 2011a: 13), Buff-spotted Flameback *Chrysocolaptes lucidus* (Voisin & Voisin 2010a: 23-24), Lesser Sri Lanka Flameback *Dinopium psarodes*, Ruddy Kingfisher *Halcyon coromanda*, Violet-necked Lory *Eos squamata guenbyensis* (Voisin & Voisin 2008b: 466-467), Crinkle-collared Manucode *Manucodia chalybatus*, Black-throated Laughingthrush *Garrulax chinensis*, Red-billed Starling *Spodiopsar sericeus*, Chinese Grosbeak *Eophona migratoria* (2), Ultramarine Flycatcher *Ficedula superciliaris*, Blue Rock-thrush *Monticola solitarius*, Black-naped oriole *Oriolus chinensis*, Madagascan Cuckooshrike *Coracina cinerea*, Black-and-white Triller *Lalage melanoleuca*, Cinereous Tit *Parus cinereus*, Malagasy Paradise Flycatcher *Terpsiphone mutata*. And 'bee-eater' (MNHN A.C. 3374), 'buttonquail' (MNHN A.C. 126750), 'bushchat' (MNHN A.C. 9084a), 'bulbul' (MNHN A.C. 3866).
[55] Most noteworthy is a specimen of the extinct Mauritius Blue Pigeon (Voisin *et al*. 2004: 118-119) collected in 1774; only two other specimens survive elsewhere. Also, Blue-throated Bee-eater *Merops viridis* (type), Little Green Bee-eater *Merops orientalis* (type and marked as from *Ancien collection*), Seychelles Blue Pigeon *Alectroenas pulcherrima* (Voisin *et al*. 2004: 119-120), Violet-necked Lory *Eos squamata guenbyensis* (Voisin & Voisin 2008a: 466-467) and White-browed Owl *Athene superciliaris* (Voisin & Voisin 2011a: 13-14).
[56] E.g. Little Wattlebird.
[57] E.g. Red-winged Starling *Onychognathus morio*.
[58] E.g. Black-headed Bunting *Emberiza melanocephala* and Little Gull *Hydrocoloeus minutus*.
[59] E.g. Red-breasted Merganser *Mergus serrator*.
[60] E.g. Smew *Mergellus albellus*.
[6] E.g. Garganey *Anas querquedula* (destroyed in 1891).
[62] E.g. Greenshank *Tringa nebularia*.
[63] E.g. Montagu's Harrier.
[64] E.g. Eastern Imperial Eagle *Aquila heliaca*.
[65] E.g. Harlequin Duck *Histrionicus histrionicus*.
[66] E.g. Chestnut-collared Swift *Streptoprocne rutila* (Voisin *et al*. 1999: 577) and Rufous-tailed Jacamar *Galbula ruficauda* (Voisin & Voisin 2009: 125).
[67] E.g. Gray-hooded Gull *Chroicocephalus cirrocephalus* (Voisin & Voisin 2011; 45), Greyish Saltator *Sal-*

*tator coerulescens* (type), Lineated Woodpecker *Dryocopus lineatus erythrops* (Voisin & Voisin 2010a: 15), Plumbeous Pigeon *Patagioenas plumbea* (Voisin *et al*. 2005: 847), Red-browed Parrot *Amazona rhodocorytha* (Voisin & Voisin 2008a: 493), South American Tern *Sterna hirundinacea* (Voisin & Voisin 2011: 49), Three-toed Jacamar *Jacamaralcyon tridactyla* (2) (Voisin & Voisin 2009: 124), White-collared Swift *Streptoprocne zonaris* (2) (Voisin *et al*. 1999: 575) and White-necked Hawk *Buteogallus lacernulatus* (Voisin & Voisin 2011b: 621).

68 Including birds from Australia, e.g. Black-headed Honeyeater (type), Olive-backed Sunbird *Cinnyris jugularis* (type), Pacific Gull (Voisin & Voisin 2011: 41-42), Singing Honeyeater (type) and Superb Parrot *Polytelis swainsonii*.

69 E.g. Grey Fantail.

70 E.g. African Sacred Ibis *Threskiornis aethiopicus moluccas* (Voisin 1993: 47-48), Baillon's Crake (Voisin & Voisin 2015: 62), Fan-tailed Cuckoo (Voisin & Voisin 1999: 381-382), Fairy Prion *Pachyptila turtur* (Voisin & Voisin 1997: 762-763), Gray Goshawk (Voisin & Voisin 2001a: 183-184), Pacific Gull (Voisin & Voisin 2011b: 41), Red-cheeked Parrot (Voisin & Voisin 2008a: 481-482) and White-browed Crake *Porzana cinerea* (Voisin & Voisin 2015: 62).

71 Black Bittern (2) (Voisin *et al*. 1996: 604-605). This may be a bird purchased from the collections made by Bruni D'Entrecasteaux and subsequently sold to Alexandre Le Bas de Sainte-Croix (1759-1828) in Java by 1802, and subsequently taken back with *Le Geographe* to MNHN.

72 E.g. African Wattled Lapwing *Vanellus senegallus* (Voisin & Voisin 2012: 32-33), Blue-breasted Kingfisher *Halcyon malimbica* (Voisin & Voisin 2008b: 6), Brown Snake Eagle *Circaetus cinereus* (Voisin & Voisin 2001a: 178) and White-backed Night-Heron *Gorsachius leuconotus* (Voisin *et al*. 1996: 597).

73 E.g. two Middle Spotted Woodpeckers *Dendrocopos medius*.

74 E.g. Guianan Puffbird *Notharchus macrorhynchus*.

75 E.g. Black-headed Parrot *Pionites melanocephalus*.

76 E.g. Saw-billed Hermit *Rhamphodon naevius* (Jouanin 1950: 2).

77 E.g. Coppersmith Barbet *Psilopogo haemacephalus* (Voisin & Voisin 2009: 135), Greater Sand Plover *Charadrius leschenaultii* (Voisin & Voisin 2012: 40), Intermediate Egret *Egretta intermedia* (Voisin *et al*. 1996: 605) and Lesser Crested Tern *Thalasseus bengalensis* (Voisin & Voisin 2011: 32).

78 Ferruginous Pygmy Owl *Glaucidium brasilianum* (Voisin & Voisin 2011a: 22-23).

79 E.g. American Bittern *Botaurus lentiginosus* (Voisin *et al*. 1996: 607-608) and Hairy Woodpecker *Picoides villosus* (Voisin & Voisin 2010a: 20).

80 E.g. Bald Eagle *Haliaeetus leucocephalus* (Voisin & Voisin 2011a: 188) and Red-shouldered Hawk *Buteo lineatus* (Voisin & Voisin 2011b: 630-632).

81 E.g. Broad-billed Rollers *Eurystomus glaucurus afer* (2) (Voisin & Voisin 2008b: 16).

82 E.g. the now lost type of "Carbo melanogaster" (Cuvier 1831).

83 E.g. Gabar Goshawk *Micronisus gabar*.

84 Including a Channel-billed Cuckoo collected by Robert Brown in 1801-1805 in Australia (unfortunately this specimen was destroyed in 1882) and a Thick-billed Guillemot *Uria lomvia arra* and Sabine's Gull *Xema sabini* from Baffin Island.

85 E.g. Red-tailed Parrot *Amazona brasiliensis*.

86 E.g. Collared Pratincole *Glareola pratincola*.

87 E.g. Pink-backed Pelican *Pelecanus rufescens*.

88 E.g. Northern Long-eared Owl *Asio otus*.

89 E.g. Mourning Dove *Zenaida macroura*.

90 E.g. Common Kestrel *Falco tinnunculus*.

91 E.g. River Lapwing *Vanellus duvaucelli* (Voisin & Voisin 2012: 34).

92 E.g. the extinct Ivory-billed Woodpecker *Campephilus principalis* (the other bird is MNHN is from a un-known date, both are females).

93 E.g. Black Baza *Aviceda leuphotes* (Voisin & Voisin 2011b: 628-629) and Crested Serpent Eagle *Spilornis cheela* (Voisin & Voisin 2001a: 178-179).

94 Northern Long-eared Owl *Asio otus wilsonianus* (Voisin & Voisin 2011a: 27).

95 E.g. Egyptian Vulture *Neophron percnopterus*.

96 E.g. Australasian Figbird, Red-tailed Black-cockatoo and Wonga Pigeon *Leucosarcia melanoleuca* from Australia. As Indian Peafowl *Pavo cristatus* from 'Japan'.

97 E.g. White-fronted Nunbird *Monasa morpheus* (Voisin & Voisin 2009: 126).

98 E.g. Egyptian Plover *Pluvianus aegyptius*.

99 E.g. Bridled Tern (Voisin & Voisin 2011: 50-51).

100 E.g. Grey Partridge *Perdix perdix*.

[101] E.g. Red-billed Quelea *Quelea quelea*.
[102] E.g. Wood Stork *Mycteria americana*.
[103] E.g. Campo Flicker *Colaptes campestris*.
[104] E.g. Brown-backed Parrotlet *Touit melanonotus*.
[105] E.g. Large-billed Tern *Phaetusa simplex chloropecta* (Voisin & Voisin 2011: 48-49) and Oriental Honey Buzzard *Pernis ptilorhynchus* (Voisin & Voisin 2001a: 176).
[106] E.g. Painted Spurfowl *Galloperdix lunulata* (Voisin *et al*. 2015: 25-26).
[107] Barred Forest Falcon *Micrastur ruficollis* (Voisin & Voisin Voisin 2002: 476) and Neotropic Cormorant *Phalacrocorax brasilianus* (Voisin 1992: 164).
[108] E.g. Snowy Owl *Bubo scandiacus*.
[109] E.g. Madagascar Harrier Hawk *Polyboroides radiatus*.
[110] E.g. Guaiabero *Bolbopsittacus lunulatus* (Voisin & Voisin 2008a: 485), Red-bellied Pitta *Erythropitta erythrogaster* (type), Shikra *Accipiter badius dussumieri* (Voisin & Voisin 2001a: 184) and White-bellied Sea Eagle *Haliaeetus leucogaster* (Voisin & Voisin 2011a: 188).
[111] E.g. Bridled Tern (Voisin & Voisin 2011: 50-51).
[112] E.g. the extinct Javan Wattled Lapwing *Vanellus macropterus* (the other Javan Wattled Lapwing in the MNHN was donated by Temminck on an unknown date).
[113] See Appendix 4.
[114] E.g. Brown Pelican.
[115] E.g. Little Green Woodpecker *Campethera maculosa* (Voisin & Voisin 2010a: 11).
[116] E.g. a specimen of the extinct Labrador Duck *Camptorhynchus labradorius* and three Eastern Towhees *Pipilo erythrophthalmus*.
[117] E.g. Madagascar Coucal *Centropus toulou* (Voisin & Voisin 1999: 400).
[118] E.g. Snail-eating Coua *Coua delalandei* (Voisin & Voisin 1999: 388-389).
[119] E.g. Black-winged Lapwing *Vanellus melanopterus* (Voisin & Voisin 2012: 33-34).
[120] E.g. Black Vulture *Coragyps atratus*.
[121] See Appendix 5.
[122] E.g. Sandwich Tern *Thalasseus sandvicensis*.
[123] E.g. Pearl Kite *Gampsonyx swainsonii* (Voisin & Voisin 2001a: 177).
[124] E.g. Northern Long-eared Owl *Asio otus wilsonianus* (Voisin & Voisin 2011a: 27).
[125] E.g. Blue-crowned Racquet-tail *Prioniturus discurus* (Voisin & Voisin 2008a: 482-483).
[126] E.g. Common Guillemot *Uria aalge* (Voisin & Voisin 2011: 53).
[127] E.g. Jacobin Cuckoo *Clamator jacobinus* (Voisin & Voisin 1999: 391).
[128] See Appendix 6.
[129] E.g. Snowy Owl.
[130] E.g. Blue-throated Bee-eater *Merops viridis* (Voisin & Voisin 2008b: 12-13), Oriental Honey Buzzard *Pernis ptilorhynchus* (Voisin & Voisin 2001a: 176-177), Greater Coucal *Centropus sinensis eurycercus* (Voisin & Voisin 1999: 400), Raffles's Malkoha *Rhinortha chlorophaea* (4) (Voisin & Voisin 1999: 394-395) and Red-billed Malkoha *Zanclostomus javanicus* (Voisin & Voisin 1999: 394-395).
[131] E.g. Black Jacobin *Florisuga fusca* (2) (Jouanin 1950: 7).
[132] E.g. Gray-lined Hawk *Buteo nitidus* from Cayenne returned.
[133] Barking Boobook *Ninox connivens* (Voisin & Voisin 2011a: 13).
[134] E.g. Grey Heron.
[135] E.g. Cuban Parrot *Amazona leucocephala*.
[136] E.g. Eurasian Storm-petrel *Hydrobates pelagicus*.
[137] E.g. Rufous-breasted Wren *Pheugopedius rutilus*.
[138] E.g. Black-faced Coucal *Centropus melanops* (Voisin & Voisin 1999: 390-391).
[139] See Appendix 7.
[140] E.g. Barred Forest-falcon *Micrastur ruficollis concentricus* (Voisin & Voisin 2002: 476), Guianan Toucanet *Selenidera piperivora* (Voisin & Voisin 2009: 138), Little Blue Heron *Egretta caerulea* (Voisin *et al*. 1996: 606), Spotted Puffbird *Nystactes tamatia* (Voisin & Voisin 2009: 128) and Tiny Hawk *Accipiter superciliosus* (Voisin & Voisin 2001a: 182).
[141] E.g. Changeable Hawk Eagle *Nisaetus cirrhatus* (2) (Voisin & Voisin 2011b: 628), Plumbeous Ibis *Theristricus caerulescens* (Voisin 1993: 48-49) and Sri Lankan Jungefowl *Gallus lafayetti* (Voisin *et al*. 2015: 18).
[142] E.g. White-headed Duck *Oxyura leucocephala*.
[143] E.g. African Sacred Ibis *Threskiornis aethiopicus melanocephalus* (Voisin 1993: 51), Pallas's Fish Eagle *Haliaeetus leucoryphus* (Voisin & Voisin 2001a: 186-187), Pallid Harrier *Circus macrourus* (Voisin &

Voisin 2001a: 180), Red-headed Vulture *Sarcogyps calvus* and Red-naped Ibis *Pseudibis papillosa* (Voisin 1993: 46-47).

144 E.g. Violet-eared Waxbill *Granatina granatina*.

145 E.g. African Swallow-tailed Kite *Chelictinia riocourii*.

146 E.g. Gull-billed Tern *Gelochelidon nilotica*.

147 E.g. Common Guillemot *Uria aalge*.

148 Lesser Fregatebird *Fregata ariel*. However, by 30 January 2018 (Dominique Malécot pers. comm.), the bird turned out via the pedestal underside to be collected in 1832 (not 1822).

149 E.g. Lizard Buzzard *Kaupifalco monogrammicus* (Voisin & Voisin 2011b: 621).

150 E.g. Great Bustard *Otis tarda*.

151 E.g. Oriental Bay-owl *Phodilus badius* (Voisin & Voisin 2011a: 11-12) and Rough-crested Malkoha *Dasylophus superciliosus* (Voisin & Voisin 1999: 399).

152 E.g. Two extinct Pink-headed Ducks *Rhodonessa caryophyllacea*.

153 E.g. Sooty Woodpecker *Mulleripicus funebris*.

154 E.g. Black-necked Aracari *Pteroglossus aracari atricollis*.

155 E.g. Red-knobbed Coot *Fulica cristata*.

156 E.g. White Stork *Ciconia ciconia*.

157 E.g. Grey Kestrel *Falco ardosiaceus* (Voisin & Voisin 2002: 480-481) and Yellow-billed Malkoha *Rhamphococcyx calyorhynchus* (Voisin & Voisin 1999: 383).

158 E.g. Bay Coucal *Centropus celebensis* and Little Auk *Alle alle*.

159 E.g. Red-faced Malkoha *Phaenicophaeus pyrrhocephalus* (2) (Voisin & Voisin 1999: 399).

160 E.g. the extinct Passenger Pigeon *Ectopistes migratorius* (destroyed in 1879) and Yellow-bellied Sapsucker *Sphyrapicus varius* (Voisin & Voisin 2010a: 16-17).

161 E.g. the extinct Passenger Pigeon (donated by 1866 to another collection).

162 E.g. Little Chachalaca *Ortalis motmot*.

163 E.g. Black-headed Gull *Chroicocephalus ridibundus*.

164 E.g. Iceland Gull *Larus glaucoides* (2) (Voisin & Voisin 2011: 42).

165 E.g. Willow Ptarmigan *Lagopus lagopus*.

166 E.g. Reed Bunting *Emberiza schoeniclus* (2).

167 Egyptian Goose.

168 E.g. African Finfoot *Podica senegalensis* (Voisin & Voisin 2015: 68) and Levaillant's Cuckoo *Clamator levaillantii* (Voisin & Voisin 1999: 398).

169 E.g. Chattering Kingfisher *Todiramphus tutus* (2) (Voisin & Voisin 2008b: 5), Chilean Pigeon *Patagioenas araucana* (Voisin *et al*. 2005: 847), Dusky Megapode *Megapodius freycinet* (Somadikarta *et al*. 2002: 184), Magellanic Oystercatcher *Haematopus leucopodus* (Voisin & Voisin 2012: 30), Orange-footed Megapode *Megapodius reinwardt* (Somadikarta *et al*. 2002: 184-185), Sacred Kingfisher *Todiramphus sanctus vagans* (Voisin & Voisin 2008b: 8), Tahitian Kingfisher *Todiramphus veneratus* (Voisin & Voisin 2008b: 7-8), Striated Caracara *Phalcoboenus australis* (Voisin & Voisin 2002: 474) and White-headed Petrel *Pterodroma lessonii* (Voisin & Voisin 1997: 760).

170 E.g. Verreaux's Eagle Owl *Bubo lacteus* (Voisin & Voisin 2011a: 19).

171 E.g. Little Gull *Hydrocoloeus minutus* (Voisin & Voisin 2011: 46).

172 Watercock *Gallicrex cinerea* (2) (Voisin & Voisin 2015: 60), Hill Partridge *Arborophila torqueola* (Voisin *et al*. 2015: 26).

173 E.g. King Eider *Somateria spectabilis*.

174 E.g. the extinct Pink-headed Duck and Sirkeer Malkoha *Taccocua leschenaultii* (Voisin & Voisin 1999: 382-383).

175 E.g. Northern Goshawk *Accipiter gentilis atricapillus* (Voisin & Voisin 2001a: 186).

176 These specimens are two fairy-wrens, Southern Emu-wren, Crimson Rosella, Eastern Rosella and Buff-banded Rail as documented in a taxidermy book kept in the laboratory of the MNHN.

177 Donated to Lycée de Moulins by Péron, documented on 23 April 1806 in dossier Archives Nationales AJ/15/596: *Psittacus 6, Bucco 1, Cuculus 1, Muscicapa 2, Turdus 5, Sturnus 1, Loxia 7, Corvus 1, Suerier 2, Buceros 1, Alcedo 2, Merops 1, Drongo 1, Columba 3, Perdix 2, Diomedia 2, Anas 3, Sterna 1, Recurvirostra 2, Carbo 1, Sula 1, Ardea 5, Scolopax 1, Hydrogallus 2, Para 4, Charadrius 2, Goeland 2*.

178 Donated to the l'Hôtel de Ville de Rouen by Lesueur, documented on 23 April 1806 in dossier Archives Nationales AJ/15/596: *Psittacus 3, Cuculus 1, Oiseaux de la Proye 1, Lanius 2, Muscicapa 2, Turdus 1, Oriolus 1, Loxia 6, Gracula 1, Parus 1, Motacilla 1, Hirundo 1, Suerier 2, Buceros 1, Alcedo 2, Merops 1, Columba 4, Perdix 1, Diomedia 2, Anas 5, Sterna 1, Goeland 4, Recurvirostra 1, Carbo 1, Sula 1, Ardea 4, Scolopax 2, Para 1, Charadrius 1, Poule de Sultane 1, vu Outro Oiseaux 1*.

[179] For example, in July 1821 birds were exchanged.

[180] At 21 July 1803, Delalande received 20 birds from the Baudin expedition (1800-1804), an 'giant emu', two Red-necked Avocets, cuckoo, penguin, eight kingfishers and two Beo for example. A skinned crake collected by Levillain and a snipe collected by Maugé also in July 1803 ended up in his possession. And another load included 2 Rails, 1 Crake, 'Curlew', two Oystercatchers, Cape Petrel, Roller, Australian Painted Snipe, two Nankeen Night Herons, 6 species of 'crows' and some others, were sold by Geoffroy Saint-Hilaire.

**3.11** [1] See footnote 97 chapter 2. For mammals of the Baudin expedition see (Jackson *et al.* 2018).

[2] François Péron, Collection Lesueur, MHNH 79058. These five sheets of paper describe the teeming birdlife encountered in Geographe Bay (near modern-day Eagle Bay), Western Australia between 30 May and 10 June 1801. In the general description, eagles, falcons, warblers, parakeets (including large black cockatoos), herons, shorebirds, crakes, pigeons, cormorants, pelicans, swans, gulls and terns were noted. Out at sea, petrels and albatrosses speckled with white and black were encountered. They note the colours of the birds and especially the songs and calls. Many birds were killed and most cannot be identified. The author identified most from limited descriptions, diaries kept by other crew members, the known specimens and the distribution of the specific species, as well as the following species (130 species were recorded in total): Brown Quail, Pacific Black Duck, Black Swan, Common Bronzewing, Pied Oystercatcher, Wandering Albatross, Australian Pelican, Australian Gannet, Pacific Gull, Roseate Tern, Southern Boobook, White-bellied Sea-eagle, Sacred Kingfisher, Red-tailed Black Cockatoo, Short-billed Black Cockatoo, Red-capped Parrot, Western Rosella, Southern Emu-wren, Rufous Whistler, Grey Shrike-thrush, Australian Magpie, Welcome Swallow and Australian Pipit. The largest part of the species mentioned and named by Péron are not described in detail, an example of which is, "the parrots are colourful and the black aras were noticed in numbers".

[3] Samples of translated descriptions of Péron's manuscripts:
**79094** ***Turdus guloflavus*** (= Yellow-throated Honeyeater)
Bill smooth, a bit compressed, emarginated on both sides, black.
Vertex dark cinereous.
Two whitish yellow spots at the base and sides of the head.
Neck, back and rump dark greenish.
Both wings of the same colour but deeper; inner side of the remiges remaining blackish.
Tail long, wedge-shaped, greenish, with the shafts of the rectrices black.
Chin pale yellow.
Throat, breast and belly linen grey.
Feet blackish grey.
The entire body is 21 cm.
The tail measured separately...9 cm.
Inhabits the South in d'Entrecasteaux channel.
Could this not be referred to Lanius?
**79097** ***Muscivora Gutturifulva*** (= Satin Flycatcher)
Bill broad, levelled [not sure what that means for a bill], black; with bristles at the base.
Vertex blackish green.
Neck, back and rump violaceous-brown.
Both wings dark brown.
Tail long, narrow, light brown.
Chin, throat and breast reddish fulvous.
Entire belly pure white.
17 cm long... the tail 7 cm.
Inhabits the south in Tasmania in d'Entrecasteaux channel.
**79100** ***Glaucopis cinerea*** Forst. (= Yellow Wattlebird)
To the Forsterian description the followings are added:
Bill black; with a bare space at the eye.
Wattles more to the rear and further down, and attached to the base of the head rather than to the lower mandible, longer, narrow and golden.
Whole body grey-brown.

Small feathers of the underside of the neck smooth, soft and silky.
Breast ash-grey.
Tip of the belly feathers with a very small yellowish space.
Feet somewhat thick, grey-brown, with the rear nail longer.
Tail long, blackish-brown above, with the rectrices white at the tip.
42 cm long; the wattles 3 cm long, barely 4 mm broad.
Inhabits Partridge Island of the d'Entrecasteaux channel, in the southern regions of Tasmania.
**79109** ***Turdus epirufus***
Bill broad, compressed, deep black; with some bristles at the base.
Head, upper neck, as well as back and both wings dark rufous.
Larger wing feathers on their inner side blackish.
Tail long, with rectrices overhanging one another.
Chin, throat and breast, as well as belly, whitish-grey, each feather with a dark brown shaft.
Feet black.
Entire body measuring 25 cm.
The tail alone 10 cm long.
Inhabits the South in d'Entrecasteaux channel.
**79111** ***Lanius rostr-oculo-pediflavus*** (= Noisy Miner)
Bill dirty yellow, at the base covered with small grey feathers.
At the eyes, a yellow bare space.
Head with black vertex and a band of the same colour starting at the chin.
Back of a grey-brown, slightly greenish colour.
Central feathers of the wings greenish, rest blackish-brown, white at the tips.
Tail long, wedge-shaped, blackish-brown.
Belly ash grey.
Feet pale yellow.
Its length is nearly 26 cm.
The tail alone 12 cm long.
Inhabits the South in d'Entrecasteaux channel.
**79113** ***Psittacus Insulae Mariae*** (= Blue-winged Parrot)
Bill dark brown, lower mandible dirty yellow.
Nares with prominent broadened edges;
Vertex dark greenish;
Neck, back, rump, and inner coverts of the wings somewhat brownish green;
Chin, throat and breast pale green;
Belly greyish green.
Anterior coverts of the wings violaceous blue.
Rectrices deep blackish blue.
Tail long, wedge-shaped; dark green above; but dirty yellowish below;
It is 7-8 inches.
Inhabits in the South [coloribus ternis?] at Maria island, on the eastern shores of Tasmania.
**79116** ***Larus melapterus*** (= Pacific Gull)
Entire body very white.
Back variegated with broad black spots.
Both wings black.
Its length is 35-40 cm.
Tail equal, white.
Really close to Larus Naevius Lin., nothing at all distinguishing it from this one, I think, and which can be seen.
Southern gregarious [bird], first appeared to us at the 43rd degree of latitude not very far from the cape of Tasmania.
{See my memoir titled: Animaux observés observés pendant la traversée de Timor au cap sud de la Terre de Diémen N°36.}