

The whereabouts of pre-nineteenth century bird specimens

F.D. Steinheimer

Steinheimer, F.D. The whereabouts of pre-nineteenth century bird specimens.

Zool. Med. Leiden 79-3 (5), 30-ix-2005, 45-67.— ISSN 0024-0672.

Frank D. Steinheimer, Museum für Naturkunde der Humboldt-Universität zu Berlin & Bird Group, Dept. of Zoology, The Natural History Museum, Tring, c/o Sylter Strasse 18, D-90425 Nürnberg, Germany (e-mail: franksteinheimer@yahoo.co.uk).

Keywords: pre-nineteenth century bird specimens; whereabouts of collections; importance of old collections.

The paper lists the whereabouts of surviving pre-nineteenth century bird collections containing altogether about 1500-3000 specimens. They are found in more than 50 institutions world-wide, with Berlin, Leiden, Paris, Stockholm, Tring and Vienna museums each holding more than 200 bird specimens from this period. The relevance of these collections for taxonomy and nomenclature is briefly discussed.

Introduction

Ever since the famous publication on the 'Development of Ornithology from Aristoteles to the Present' (Stresemann, 1951, 1975) the history of avian science has been popular, especially for museum's exhibitions, (e.g. Voyages of Discovery, The Natural History Museum, London, 1999; *Theatrum naturae*, Martin-Gropius-Bau, Berlin, 2001), behind-the-scenes tours and specially dedicated publications (e.g. Haffer, 1997; Mearns & Mearns, 1998; Walters, 2003). However, hardly any ornithological publication using museum specimens goes into much detail on the history of the particular collection or the nomenclature of the taxon. Many bird names used by 18th century authors are not identified yet and type material of early collections are often believed lost due to decay and neglect over time. The most common assumption is that, besides war, fire and floods, these losses have mainly been caused by bad curation, unsuitable housing of collections and improper taxidermical skills of early ornithologists. Richard Bowdler Sharpe (1847-1909) reported very vividly on the conditions of some of the oldest surviving bird skins, those of George Montagu's (1753-1815) collection: "Not one of his specimens was properly prepared – apparently no preservative worthy of the name having been used – and I [i.e. R. Bowdler Sharpe] have felt the greatest anxiety as to the preserving of the relics of this ancient British collection. The bones of the neck and other bones of the body were left in the specimens [...]. Owing to the specimens having no preservative, many of them, especially the fat and heavy ones, fell to pieces from their own weight in course of time" (Sharpe, 1906: 79-80).

Stresemann only knew of three records of pre-1600 bird specimens (Stresemann, 1923a). Furthermore, most authors illustrated surviving specimens of any time before 1800 as the rare exception (e.g. Sharpe, 1906). However, new research has now proved a much earlier origin of Middle European bird preparation (Schulze-Hagen et al., 2003). Bird trappers and ornithologists alike already evolved sophisticated techniques in making skins to last. From the Renaissance onwards, natural history cabinets were a common sight, bird preservation techniques as well as proper housing were discussed and collection management established.

The history of pre-nineteenth century collections

The invention of Jean-Baptiste Bécœur's (1718-1777) arsenic soap has been seen as the most important turning point for building up bird collections. Apparently Bécœur's recipe of arsenic soap was unknown to ornithologists until it was posthumously published and made known by Louis Dufresne (1752-1832) in 1803 (*cf.* Stresemann, 1923a, 1951; Farber, 1977; Piechocki, 1982; Mearns & Mearns, 1998). Some earlier ornithologists though, already applied arsenic as an insecticide and recommended it for preservation of bird skins (Hohberg, 1682; Forster, 1771; Schulze-Hagen et al., 2003). However, the huge number of 1500-3000 surviving bird specimens of the 18th century shows clearly that the invention and application of arsenic soap was only one aspect of several further, equally important improvements of collection management in the late 18th century leading to the long-term survival of bird specimens. These improvements ranged from a better pest control using properly sealed glass cases (Piechocki, 1982) and enclosed insect repellents, better preparation techniques leaving less organic substance in each specimen, combined with increased efforts in housing collections in more suitable buildings. Directorships alternated from aristocrats with no background in the subject to professional scientists assisted by dedicated and responsible curators. Last but not least, collections were also valued during unsteady times.

The biggest threats to these early collections were actually the curators of the early and mid 19th century, when new material was available to replace 'the old stuff'. Birds suddenly had to look nice in the public galleries. In several museums a second clearance took place after WWII. The main reasons at that time were that the old and data-less specimens took up too much space, were believed irrelevant or too poisonous for public display.

During the first two decades of the 19th century the keeper of the natural history collections of the British Museum, John George Children (1777-1852) and especially the zoologist William Elford Leach (1790-1836), would still hold bonfires of bird specimens in their care. Leach's successor William Swainson (1789-1855) was the first curator of the British Museum to address this common practise of dealing with insect pest as wrong, when reporting to the *Edinburgh Review* (Jan. 1823) that, of originally more than 2000 exotic birds at the turn of century, only 322 had survived until 1822 (Gunther, 1980: 55-56, 84). Also a 'Report on the State of the Zoological Collections' undertaken in 1829 jointly by Carl Dietrich Eberhard König (1774-1851) and Children revealed that the bird collection of the British Museum would contain a complete set of European birds, but only one-sixth of all birds known. While Swainson was rather keen to prevent insect pest by a better collection management, housing and storing, the new keeper of zoology, John Edward Gray (1800-1875), compensated any losses by new acquisitions (Gunther, 1975). Martin Hinrich Carl Lichtenstein (1780-1857), Coenraad Jacob Temminck (1778-1858), John Gould (1804-1881) and Eduard Rüppell (1794-1884), to name but a few, frequently sold type specimens to other museums (Lichtenstein, 1823; Steinheimer, 2003c). Authentic material has not been appreciated until towards the end of the 19th century.

Nevertheless, some of the specimens, which had been prepared in the manner of Johann Reinhold Forster's (1771) instructions, much criticized by Sharpe (1906), have in fact survived until today.

Whereabouts of pre-nineteenth century bird specimens

Rather than listing each single individual, pre-nineteenth century bird specimens are referred to under their collectors' names. Most of the entries indicate the existence of a single or a handful of pre-1800 specimens in a particular museum only. Just a few collections contain more than a dozen pre-1800 specimens, such as the collections of George Montagu, Coenraad Jacob Temminck, Gustaf von Paykull and Peter Simon Pallas (see below). Far the highest number of 18th century birds is found at the Swedish Museum of Natural History in Stockholm.

In the following listing, entries marked with a question mark (?) indicate that surviving specimens of the collection in question have not been confirmed. Entries marked with a question mark up-side-down (¿) are extant collections but the age of the specimen(s) in question could not definitely be pinned down of being pre 1800 as many collectors obviously continued collecting birds in the 19th century as well. An asterisk (*) indicates obvious errors in literature. Numbers given for surviving pre-1800 specimens are estimations of the care-taking curator, conclusions from literature or/and results of my own studies. Institution marked with a dot (•) have been visited by me.

Bamberg, Naturkunde-Museum Bamberg• (G. & D. Döllner, pers. com., Dec. 2002; own data): *ex parte coll.* ? Benediktiner-Kloster **Banz** (cf. Mäuser, 1995 b) & *coll.* ¿ Dionysius **Linder** (1762-1838, *leg. ante* 1830, cf. Stephan, 1807 a-e; Jaeck, 1815; Kolb, 1983; Mäuser, 1995 a,b; Steinheimer, 2003d). ¿ <2 specimens.

Basel, Naturhistorisches Museum: *coll.* ¿ Hieronymus **Bernoulli** (1745-1829, cf. Sarasin, 1940). ¿ 72 specimens.

Berlin, Museum für Naturkunde der Humboldt-Universität zu Berlin• (own data): *coll.* **Königliche Kunstkammer sensu lato incl. colls.** Königliche Kunstkammer *sensu stricto* der Preußischen Könige **Friedrich Wilhelm II** (1744-1797) & **Friedrich Wilhelm III** (1770-1840, *coll. ante* 1810, cf. Jahn, 1985), Carl Ludwig **Willdenow** (1765-1812, cf. Damaschun et al., 2000) & **Academie** der Wissenschaften (*acqu.* 1800, cf. Damaschun et al., 2000) *incl. colls.* ? Christoph Friedrich **Nicolai** (1733-1811, *coll. ante* 1800, cf. Jahn, 1985), ? Adriaan **Vroeg** (1733-1777, cf. Os, 1764; Linné, 1766; Pallas, 1769b: 3, 12, 33; Oort, 1911; Stresemann, 1923; Smit et al., 1986), ? Anton August Heinrich **Lichtenstein** (1753-1816, cf. Lichtenstein, 1793; Rüppell, 1837: 220: specimens of *Neotis cafra*, not found 2003) & *ex parte coll.* [?Johann Christoph] **Richter** (? 1689-1751, *acqu.* ? 1784, cf. Seifert, 1935; Wilson, 1990); *coll.* Johann Centurius Graf von **Hoffmannsegg** (1766-1849, Iberian *coll.*, 1798-1801; ? European *coll.* 1793-1798, 1801-1810, cf. Stresemann, 1950b); *ex parte colls.* Peter Simon **Pallas** (1741-1811, *leg.* 1768-1774 & 1793-1795, *coll. ante* 1810, *ex parte via* C.L. Willdenow; cf. Rammelsberg (s.a.); Stresemann, 1922; Gebhardt, 1964; Stephan, 1985; Steinheimer, 2003b) *incl. ex parte coll.* ? Georg Wilhelm **Steller** (1709-1746, *leg.* 1741-46, cf. Pallas, 1769a; Gebhardt, 1964, 1970), Karl **Krebs** (?- post 1799, *coll.* 1786-1794, cf. Gebhardt, 1964) & Carl Heinrich **Merck** (1761-1799, cf. Ahrens, 1925; Stresemann, 1948; Gebhardt, 1964); William **Bullock** (c.1773-1849, cf. Bullock, 1819; Brauer, 1910; Whitehead, 1969; Steinheimer, 2003b,c) *incl. ex parte coll.* James **Cook** (1728-1779) & Ashton **Lever** (1729-1788, cf. Sharpe, 1906); Georges **Cuvier** (1769-1832), [?Jean-Baptiste] **Bécoeur** (?1718-1777, cf. Illiger, 1812) *incl. ex parte coll.* ? Philipp Ludwig Statius **Müller** (1725-1776, cf. Stresemann, 1925); Louis **Dufresne** (1752-1832), Coenraad Jacob **Temminck**

(1778-1858, *cf.* Illiger, 1812; Anonymous, 1813-1816) *incl ex parte coll.* François **Levaillant** (1753-1824, South African specimens *leg.* 1782-83, *cf.* Illiger, 1812; (*i.a.*) Temminck, 1815: 640); Olof Peter **Swartz** (1760-1818, *cf.* Illiger, 1812; Lönnberg, 1926), ? Johann Gottlob **Nathusius** (1760-1835, *cf.* Stresemann, 1958) *incl. coll.* ? Graf Johann von **Mattuschka** (?-1804, *leg.* 1785-1804, *acqu.* 1821, *cf.* Stresemann, 1958: one certain specimen lost in WWII); Gustaf Freiherr von **Paykull** (1759-1826, *leg. pars major ante* 1800, *acqu. ante* 1813, *cf.* Anonymous, 1813-1816), Johann Christian Ludwig **Hellwig** (1743-1831, *acqu. ante* 1812, *cf.* Illiger, 1812; Lichtenstein, 1818), ζ Baron Guillaume Michel Jerome Meiffren-**Laugier** de Chartrouse (1772-1843), ζ Wilhelm Gottlieb **Tilesius** von Tilenau (1769-1857, Siberian *coll. ante* ? 1800, *cf.* Illiger, 1812), ζ Peter Friedrich **Röding** (1767-1846 *vel* ?-1780, *acqu. ante* 1813, *cf.* Horn et al., 1990; www.genealogienetz.de/), ζ Carl Friedrich August **Meisner** (1765-1825), ζ Karl Siegmund Franz Freiherr von **Altenstein** (1770-1840, *acqu. ante* 1813), ζ [?Jakob Fidelis] **Ackermann** (c.1765-1815, *acqu. c.* 1810-20), ζ Carl Asmund **Rudolphi** (1771-1832, *leg. ante* 1810, *cf.* Illiger, 1812; Stresemann, 1923c) & ζ Franz Joseph **Martin** (1738-1821, *cf.* Gebhardt, 1964). >200 specimens.

Bern, Naturhistorisches Museum Bern (M. Güntert, in litt., July 2002): *colls.* Carl Friedrich August **Meisner** (1765-1825, one specimen *leg.* 1797, *cf.* Meisner & Schinz, 1815: 278-279) & ? Daniel **Sprüngli** (1721-1801; one surviving nest for sure, perhaps also some bird specimens). 1 certain, perhaps more specimens.

Bologna, Museo di Zoologia (M. Zanatello, in litt., Nov. 2002): *colls.* ? Ulisse **Aldrovandi** (1527-1605, *cf.* www.unibo.it/musei-universitari/zoologia/zoologia.html; no confirmed specimen) & *indet.* ? < 10 specimens.

Braunschweig, Staatliches Naturhistorisches Museum (M. Forthuber, in litt., Aug. 2002): *ex parte coll.* Ludwig Philipp Duc d'Orléans (1725-1785, *acqu.* 1755 *via* Daniel de **Superville** (1696-1773): one specimen of *Corvus corax varius*, *cf.* Boettger, 1954; www.naturhistorisches-museum.de/geschi.html). 1 specimen.

Brno, Moravské Zemské Muzeum (Zoologický Depozitář at Budišov u Třebíče)• (H. Sutorová, in litt., Nov. 2002; own data): *colls.* ? **Franzens**-Museum (founded *post* 1816, *cf.* Sutorová, 1999) & Adolf **Schwab** (1807-1891, obtained older specimens, *cf.* Gebhardt, 1964; Sutorová & Hanák, 1997; preparation style suggests some specimens from the 18th century). ζ < 10 specimens.

Cambridge, University Museum of Zoology• (R. Symonds, in litt., Nov. 2002): *pars major coll.* ζ William **Swainson** (1789-1855, *cf.* Stresemann, 1951; Roselaar 2003) *incl. ex parte coll.* ζ William **Bullock** (c.1773-1849, 31 specimens, 2 perhaps pre 1800, *cf.* Sharpe, 1906; Parkinson, 1988; Benson, 1999). ζ 2 specimens.

Cambridge Mass., Museum of Comparative Zoology, Harvard University (D. Causey, in litt., Jan./Feb. 2003, M. LeCroy, P. Sweet, Storrs Olson, in litt., July 2004): *ex parte colls.* Charles Willson **Peale** (1741-1827, *coll. pars minor ante* 1800, *via* the Boston Society of Natural History, *cf.* Wilson, 1810: 125; Wilson, 1813: 16; Wilson, 1814: 104; Faxon, 1915; Stresemann, 1951; Mearns & Mearns, 1998; ζ 6-18 specimens) *incl ex parte coll.* George **Washington** (1732-1799, *cf.* Faxon, 1915: 127: two specimens of Golden Pheasants); Alexander **Wilson** (1766-1813, *leg. ante* 1800, *cf.* Wilson, 1810-1814; Bangs, 1930; c. 25 specimens) & *ex parte coll.* **American Museum of Natural History** *incl. ex parte coll.* **Naturhistorisches Museum Wien** *incl. ex parte coll.* Ashton **Lever** (1729-1788) *incl ex parte coll.* James **Cook** (1728-1779, *cf.* Bangs, 1930: 363; Medway, 1979; one *Drepanis pacifica*). c. 30 specimens.

Coimbra, Museu de História Natural – Museu Zoológico, Universidade de Coimbra (C. Hazevoet, in litt., Mar. 2003): coll. Domingos **Vandelli** (1730-1816, coll. ante 1779, cf. Carreira et al., 2000). 8 specimens.

Cremona, Museo Civico di Storia Naturale (C. Violani, pers. com., Oct. 2003): coll. ζ Giuseppe Sigismondo Ala **Ponzone** (1761-1842). < 30 specimens.

Darmstadt, Naturkundliche Abteilungen des Hessischen Landesmuseums Darmstadt (U. Joger, in litt., Oct. 2002): coll./acqu. Georg Bathasar **Bekker** (leg. 1796, illustrated by Johann Theodor Susemihl (1772-1848) in Borkhausen et al., 1800; one *Sula bassana*). 1 specimen.

Edinburgh, National Museum of Scotland• (B. McGowan, in litt., Nov. 2002; own data): priv. coll. Louis **Dufresne** (1752-1832, leg. ante 1818/1820, cf. Sweet, 1970b; Fuller 2001) incl. colls. ? Impératrice **Joséphine** (1763-1814) / Julien **Desjardins** (coll. ante 1814, cf. Greenway, 1958; Fuller 2001); ex parte coll. William **Bullock** (c.1773-1849, leg. ante 1819, cf. Sweet, 1970a). 50-100 specimens.

Firenze, Museo Zoologico de 'La Specola' (M. Poggese & A. Nistri, in litt., Nov. 2002): coll. Gran Duca Pietro **Leopoldo di Lorena** alias Lorraine (coll. ante 1775, data from oldest catalogue (1792): surviving specimens are (half of the 20.000 present specimens yet checked): 4 parrots, 16 quails, 1 duck, 1 hummingbird, 2 eggs of ostriches & 1 egg of cassowary). ≥ 22 specimens.

Frankfurt a. M., Naturmuseum und Forschungsinstitut Senckenberg• (U. Wanhoff, pers. com., Nov. 2002; K. Klemmer & G. Mayr, pers. com., June 2003; own data): colls. ζ Bernhard **Meyer** (1767-1836, leg. ante 1818 [? 1810], cf. Meyer & Wolf, 1810; Hartert, 1891) & ? Johann Christian **Gerning** (1745-1802; probably a *Paradisaea apoda*, two *Paradisaea minor*, a *Cicinnurus regius*, two *Rupicola rupicola* & a *Ramphastos tucanus*, cf. Anonymous [c. 1832]); ex parte colls. Coenraad Jacob **Temminck** (1778-1858) incl. ex parte coll. ? François **Levaillant** (1753-1824, South African specimens leg. 1782-83); Friedrich Heinrich Freiherr von **Kittlitz** (1799-1874, cf. Hartert, 1891: 178) & Johann Friedrich von **Brandt** (1802-1879) incl. ex parte coll. Carl Heinrich **Merck** (1761-1799, cf. Kittlitz, 1858: two *Haliaeetus pelagicus*). 2-9, perhaps up to 25 specimens.

Glasgow, University of Glasgow Hunterian Museum & Art Gallery• (M. Reilly, in litt., Jan. 2003): coll. William **Hunter** (1718-1783, cf. Latham 1785: 18-20; <http://www.hunterian.gla.ac.uk/>; one mount of *Anhima cornuta* & anatomical series of *Gallus gallus*); ex parte coll. ? William **Bullock** (c.1773-1849, cf. Sharpe, 1906). 1, perhaps up to 10 specimens.

Göttingen, Institut für Zoologie der Universität Göttingen• (G. Tröster, in litt., Nov. 2002): coll. ? Johann Friedrich **Blumenbach** (1752-1840, coll. ex parte ante 1800, cf. Gebhardt, 1964; Roselaar 2003; no confirmed specimen yet known). ? < 10 specimens.

Göttingen, Institut für Ethnologie, Völkerkundliche Sammlung der Universität Göttingen• (G. Tröster & G. Krüger, in litt., Nov. 2002): ex parte, via George **Humphrey** (1739-1826), coll. David **Samwell** (1751-1798, leg. 1779) i.e. Surgon's Mate of James **Cook** (1728-1779, acqu. 1782, cf. Humphrey 1782: No. 346 addition, Merrem, 1784; Stresemann, 1950a; Medway, 1979; Hauser-Schäublin & Krüger, 1998: 239, photo p. 130; Steinheimer, 2003c; one *Vestiaria coccinea*). 1 specimen.

Halle a.d. Saale, Kunst- und Naturalienkammer, Franckesche Stiftungen• (Heike Link, pers. com., Feb. 2003; own data): colls. **Franckesche Stiftungen** (acqu. 1698-1787, cf. Müller-Bahlke, 1998: 55-56; Kinzelbach, 2002: 82-83; one mount of *Remiz pendulinus* &

three alcohol specimens, *prep.* c. 1741-1780s, entry in catalogue from 1780s). 1 specimen.

Halle a.d. Saale, Anatomische Sammlung der Martin-Luther-Universität Halle-Wittenberg (E. Steinicke, pers. com., Feb. 2003): *colls.* ? Johann Friedrich Meckel der Ältere (1724-1774), ? Philipp Friedrich Theodor **Meckel** (1755-1803) & ; Johann Friedrich **Meckel** der Jüngere (1781-1833, *cf.* Göbbel et al., 2002; one *Pyrrhula pyrrhula*, *Corvus frugilegus* & *Phasianus colchicus* inventarized as „Meckel-Coll.“). Probably 3 specimens.

Hannover, Niedersächsisches Landesmuseum (Chr. Schilling, pers. com., Feb. 2003; own data): *ex parte, via* George **Humphrey** (1739-1826) on behalf of King **George** III of Britain & Elector of Hanover (1738-1820), **Institut für Zoologie** der Universität Göttingen & *coll.* Heinrich **Kirchhoff** (1789-1871, ? accidentally associated with this collection; *cf.* Gebhardt, 1970), *coll.* David **Samwell** (1751-1798, *leg.* 1779) *i.e.* Surgon's Mate of James **Cook** (1728-1779, *cf.* Humphrey, 1782: No. 346 addition; Merrem, 1784: 8 & pl. 2; Stresemann 1950a: 80; Hauser-Schäublin & Krüger, 1998: 63, 239; Steinheimer, 2003c; one *Moho nobilis*). 1 specimen.

Karlsruhe, Landessammlungen für Naturkunde Karlsruhe • (H.-W. Mittmann, pers. com., Mar. 2004; own data): *colls.* Markgräfin **Luise** von Baden (1723-1783) & Carl Christian **Gmelin** (1762-1837, *cf.* Angst, 1985; Trunko, 1985; *nec* Griffin, 1946; Titschack, 1952). < 10 specimens.

Kassel, Ottoneum Naturkundemuseum der Stadt (P. Mansfeld, in litt., Oct. 2001): *coll.* Barthold **Lohmann** (1749-1812) *vel* Heinrich **Zimmermann** (1741-1805) during the third voyage of James **Cook** (*leg.* 1778-1779, *cf.* Stresemann, 1950a; Popp, 1980; specimens not found; *cf.* Titschack, 1952; Steinheimer, 2003c). ? 4 specimens [probably lost in the WWII].

Kazan, Zoologicheskii Muzeum, Kazanski' u'i Universitet (O. Askeyev & I. Askeyev, in litt., Dec. 2002): *coll.* **indet.** (*acqu.* 1804; some specimens from end of 18th century). < 10 specimens.

Köthen, Naumann-Museum (G. Hildebrandt, pers. com., Sep. 2002 & W.-D. Busching, in litt., Oct. 2002): *coll.* Herzog Friedrich Ferdinand von **Anhalt-Cöthen** (1769-1830, *acqu.* 1821) *incl.* *colls.* Johann Andreas **Naumann** (1744-1826) & Johann Friedrich **Nau- mann** (1780-1857, *ex parte minor ante* 1800, *cf.* Zimdahl, 1980; Piechocki 1982) *incl.* *ex parte colls.* Coenraad Jacob **Temminck** (1778-1858) *incl.* *ex parte coll.* François **Levaillant** (1753-1824, *leg. ante* 1785, *cf.* Stresemann, 1951; Busching, 2001); [the specimen of *Fratercula corniculata*, always connected with *coll.* * Christian Friedrich Schwägrichen (1775-1853) *incl.* *ex parte coll.* * Christoph Heinrich Ploß (1757-1838, *cf.* Jacobi, 1928) *incl.*, *via* * Peter Simon Pallas (1741-1811) & * Christian Gottfried Heinrich Geißler (1770-1844), *ex parte coll.* * Carl Heinrich Merck (1761-1799, *cf.* Thomsen & Stresemann, 1957; Gebhardt 1964; Busching, 2001), probably originates from *coll.* Morten Wormskiold (1783-1845) made on the voyage of Otto von Kotzebue (1787-1846, *leg.* 1815-1818), *cf.* Hildebrandt, 2001]. 1-4, perhaps 12 specimens [18th century-styled specimen of *Halcyon smyrnensis* shown in Busching 2002: 32 is younger].

København, Zoologisk Museum Københavns Universitet (J. Fjeldså, in litt., June 2004): *ex parte coll.* **Naturhistorisches Museum Wien** (*acqu.* 1861) *incl.* *ex parte coll.* Ash- ton **Lever** (1729-1788, *cf.* Pelzeln, 1873: 30; one *Buceros coronatus*): 1 specimen.

Kremsmünster, Sternwarte des Benediktinerstifts Kremsmünster (G. Aubrecht &

A. Kraml, pers. com., Oct. 2002): *colls.* ? Patres Eugen **Dobler** (1714-1796, *coll. post* 1746, at least one egg, Pfeiffer, 1887), ? Leopold **Vogel** (*fl.* late 18th century) & ? Abbot Erenbert **Meyer** (1771-1800, *cf.* Doberschiz, 1764; Pfeiffer, 1887; Schifter, 1977). ? < 10 specimens.

Leiden, Nationaal Natuurhistorisch Museum Naturalis• (R. Dekker, in litt., June 2004, Aug. 2004; own data): *colls.* Jacob **Temminck** (1746-1822, *leg. post* 1770s, *cf.* Stresemann, 1951; Holthuis, 1995) & Coenraad Jacob **Temminck** (1778-1858, *cf.* Gijzen, 1938; Stresemann, 1953b) *incl. ex parte coll.*, *via* Mr [*nec* Jean-Baptiste] **Bécoeur**, Jacques-Julien H. de **Labillardière** (1755-1834, *leg.* 1791-1794, *cf.* Stresemann, 1953a & 1953b) & Antoine **Riche** (1762-1797, *leg.* 1791-1794, *cf.* Stresemann, 1953a), William **Bullock** (c.1773-1849, *cf.* Bullock, 1819; Ghisin, 1969; Holthuis, 1995) *incl. ex parte coll.* Ashton **Lever** (1729-1788) *incl. ex parte coll.* James **Cook** (1728-1779, *cf.* Medway, 1979; Dekker, 1999); & *ex parte colls.* François **Levaillant** (1753-1824, *cf.* Stresemann, 1951; Stresemann, 1953b; Roselaar, 2003), René **Maugé** (?-1802, *coll.* Porto Rico *leg.* 1797-1798, *cf.* Stresemann, 1951, 1953b), Thomas **Thompson** (*fl.* 1790-1814, *cf.* Stresemann, 1953b), Peter Simon **Pallas** (1741-1811) & Prince Willem V d'**Orange** (*coll.* 1756-1795, Holthuis, 1995, 2001b). >200 specimens.

Leipzig, Naturkundemuseum• (M. Meyer, pers. com., Oct. 2002): *ex parte coll.* Christian Friedrich **Schwägrichen** (1775-1853) *incl. ex parte coll.* Christian Gottfried Heinrich **Geißler** (1770-1844) *incl. ex parte colls.* Peter Simon **Pallas** (1741-1811, *coll. ante* 1810, *cf.* Gebhardt, 1964) & Carl Heinrich **Merck** (1761-1799, *cf.* Gebhardt, 1964; Joost, 2003). c. 12, (nach Jacobi, 1928) 21 specimens.

Le Mans, Musée Vert Véron de Forbonnais (N. Morel, pers. com., June 2003): *ex parte coll.* Cabinet des Stadhouders Den Haag / Prince Willem V d'**Orange** *alias* Oranje (*coll.* 1756-1795, *acqu.* 1799/1804, *via* Muséum National d'Histoire Naturelle Paris, André Pierre & Thomas Cauvin on behalf of the Ecole Centrale de la Sarthe; two mounted birds, a toucan and an ibis). 2 specimens.

Lilienfeld, Tierkabinett Stift Lilienfeld: *ex parte coll.* Aegydius **Kratky** (1750-1818, *coll.* Weinviertel 1774-1791 (? 1812) & *aliae colls. ante* c. 1816, *cf.* Hochebner & Bauernfeind, 2002). 144 specimens (¿ some younger than 1800).

Liverpool, National Museums & Galleries on Merseyside• (M. Lagen, in litt., Nov. 2002; own data): *coll.* Lord Edward Smith Stanley *alias* 13th **Earl of Derby** (1775-1851) *incl. ex parte colls.* General Thomas **Davies** (1737-1812, *coll. ante* 1802, *cf.* Fuller, 2001 [p. 175: wrong living dates]; Fisher, 2002; Fisher & Jackson, 2002) *incl. coll.* Dr. **Lowe** (*leg.* 1785); Ashton **Lever** (1729-1788, *cf.* Lagen, 1987) *incl. ex parte coll.* James **Cook** (1728-1779, *cf.* Lagen, 1987); ¿ George **Montagu** (1753-1815, *fide* museum's database search 1998: one specimen), ¿ William **Swainson** (1789-1855) *incl.* [?] & *separata ex parte coll.* William **Bullock** (c.1773-1849, *cf.* Sharpe, 1906; Stresemann, 1951; Medway, 1976, 1979; Whitehead, 1969, 1978; Wagstaffe, 1978; Fisher & Jackson, 2002; Roselaar, 2003); *ex parte coll.* John **Latham** (1740-1837, *fide* museum's database search, 1998). 26, perhaps up to 50 specimens.

London, Museum at Westminster Abbey: one specimen of The Duchess of **Richmond** (*prep.* 1702, *cf.* Morris, 1981). 1 specimen.

London, Royal College of Surgeons of England (B. Davis, in litt., 2001): [wet/dry anatomical specimens] *coll.* John **Hunter** (1728-1793, *cf.* Farber, 1982; Asma 2001) *incl. ex parte colls.* ? James **Cook** (1728-1779) & ? Ashton **Lever** (1729-1788, most specimens of Lever & Cook donated to BMNH, now at Tring, in 1845 & 1909, *cf.* Steinheimer, 2003c). 118 (anatomical) bird specimens.

Lyon, Muséum d'Histoire Naturelle (J. Clary & A. Maire, in litt., Dec. 2002): *coll.* Jean André Ignace de **Soubry** (1705-1774, *acqu.* 1803: originally 500 specimens, actual number unknown; *cf.* Soubry, 1736-1737). Up to >200 possible specimens.

Montreal, Blacker-Wood Library of Biology, McGill University (K. Schulze-Hagen, pers. com., Oct. 2002): *coll.* Dionisio **Minaggio** (*prep.* 1618 [parts of birds only], *cf.* <http://digital.library.mcgill.ca/featherbook/>, Violani 1988). 145 [parts of] specimens.

München, Zoologische Staatssammlung• (own data): *coll.* Kurfürst Maximilian III. Joseph von **Wittelsbach** (1727-1777, *coll. post* 1759) & Kurfürst Karl Theodor von **Wittelsbach** (1724-1799, *coll.* 1759-1799; no 18th century specimen yet identified, but the oldest register lists data-less, but still existing birds, which might be pre 1800; *cf.* Hahn, 1818-1823; Hahn & Küster, 1834-1841; but *cf.* also Titschack, 1952). ? <10 specimens.

Neuchâtel, Muséum d'Histoire Naturelle de Neuchâtel: *coll.* ? Charles-Daniel de **Meuron** (1748-1806, *leg. ante* 1795, *cf.* Roselaar, 2003). ? specimens.

Newcastle upon Tyne, The Hancock Museum (L. Jessop, in litt., Oct. 2002): *coll.* George **Allan** (1736-1800, *ex parte leg.* 1776, *cf.* Jessop, 1999a; Jessop & Stobbs, 2002: 129) *incl. coll.* Marmaduke **Tunstall** (1743-1790, *acqu.* 1791, *cf.* Bewick, 1826; Jessop 1999b, 1999c; Jessop & Stobbs, 2002: 131, 132, 136 & 138; Jessop & Prÿs-Jones, in prep.) *incl. ex parte colls.* 4th **Earl of Orford** (1717-1797, *don.* 1775) & ? Joachim Friedrich **Bolten** (1718-1796, *acqu. c.* 1775). 27 specimens.

Oxford, Oxford University Museum of Zoology• (M. Nowak-Kemp, in litt., Jan. 2003): [several stuffed, avian parts] *coll.* Elias **Ashmole** (*ante* 1683, *cf.* Mearns & Mearns, 1998) *incl. coll.* John **Tradescant** (*ante* 1656, *cf.* Anonymous, 1836; Fuller, 2002) *incl. ex parte coll.* ? Thomas **Herbert** (*leg. ante* 1627, *cf.* Stresemann, 1923). [several stuffed, avian parts of formerly up to] 1-4 specimens.

Padova, Museo di Zoologia, Università degli Studi di Padova (P. Nicolosi, in litt., Sep. 2002): *colls.* ? Antonio **Vallisneri** (*coll. ante* 1734, *cf.* Roselaar, 2003) & ? **indet.** ? <10 specimens.

Paris, Muséum National d'Histoire Naturelle• (A. Péquignot, in litt., Nov. 2002; own data): *colls.* ? René-Antoine Ferchauld de **Réaumur** (1683-1757, *cf.* Stresemann, 1951) *incl. ex parte coll.* ? Pierre **Poivre** (1719-1786, Stresemann, 1952); ? Mathurin-Jacques **Brisson** (1723-1806, *cf.* Stresemann, 1951), **Cabinet du Roi** (*leg. ante* 1793, *cf.* Roselaar, 2003) & Philibert de **Commerson** (1727-1773, South America & Pacific Isl. *leg.* 1761-1768, Mascarene Isl. & Madagascar *leg.* 1768-1773, *cf.* White & Bruce, 1986); *ex parte colls.* ? Cabinet des Stadhouders Den Haag / Prince Willem V d'**Orange** *alias* Oranje (*coll.* 1756-1795, *cf.* Prestwich, 1963; Mearns & Mearns, 1998; Holthuis, 2001a) / Aernout **Vosmaer** (1720-1799, *cf.* Stresemann, 1951) *incl. coll.* ? Albertus **Seba** (*ante* 1752, *cf.* Stresemann, 1951); Georges-Louis Leclerc de **Buffon** (1707-1788), Pierre **Sonnerat** (1749-1814, *ex parte leg.* 1771-1772, *cf.* Berlioz, 1950; White & Bruce, 1986; Fuller 2001) *incl. ex altera parte coll.* Pierre **Poivre** (1719-1786, *cf.* Stresemann, 1951), Jacques-Julien H. de **Labillardière** (1755-1834, *leg.* 1791-1794, *cf.* Stresemann, 1953a; White & Bruce, 1986) & Antoine **Riche** (1762-1797, *leg.* 1791-1794, *cf.* Stresemann, 1953a); William **Bullock** (c.1773-1849, *cf.* Sharpe, 1906), François **Levaillant** (1753-1824, South African specimens *ante* 1785, *excl. coll. ante* 1795, *cf.* Stresemann, 1951; Horn et al., 1990; Mearns & Mearns, 1998), ♂ Baron Guillaume Michel Jerome Meiffren-**Laugier** de Chartreuse (1772-1843, *cf.* Roselaar, 2003), ? Jean-Baptiste **Leschenault** de la Tour (1773-1826, *pars minor ante* 1800, *cf.* Berlioz, 1950; Mearns & Mearns, 1998), Georges Léopold Chrétien Frédéric Dagobert **Cuvier**

(1769-1832), ζ Etienne Geoffroy **Saint-Hilaire** (1772-1844, *cf.* Berlioz, 1950), ζ Coenraad Jacob **Temminck** (1778-1858) & Louis **Dufresne** (1752-1832, *cf.* Roselaar, 2003). >200 specimens.

Parma, Museo di Storia Naturale, Università di Parma (V. Parisi, in litt., Nov. 2002): *colls.* Pater Jean Baptiste **Fourcault** (*prep.* 1764-1775, *cf.* Stresemann, 1923; Piechocki, 1982) & **indet.** Trochilidae (*coll. c.* 1700). > 34 specimens.

Pavia, Museo di Storia Naturale all Università di Pavia: *ex parte coll.* Lazzaro **Spallanzani** (1729-1799, *leg. & coll.* 1771-1799) *incl. colls.* Giovanni Antonio **Scopoli** (1707-1778, *leg. ante* 1777), ? Paolo **Odescalco** (*leg ante* 1778), ? Francesco **Maynardi** (*leg ante* 1778), ? Alessandro **Brambilla** (*acqu.* 1787-1793), ? Vincenzo **Rosa** (*leg.* Sardinia & Algeria 1793) & ? **indet.** from America (*acqu. via* Bruxelles in 1782, *cf.* Farber, 1982; Rovati & Galeotti, 1999). *c.* 10, probably 10-50 specimens.

Philadelphia, The Academy of Natural Sciences (L. Joseph, in litt., Jan. 2003): *ex parte coll.* ζ Charles Willson **Peale** (1741-1827, *coll. pars minor ante* 1800, *cf.* Wilson, 1812: 92; Stone, 1899; Faxon, 1915; Stresemann, 1951; Mearns & Mearns, 1998; one specimen of *Buteo platypterus*). ζ 1 specimen.

Pisa, Museo di Storia Naturale e del Territorio, Università di Pisa (M. Zuffi, in litt., Jan. 2003): *coll. indet.* (*ante* 1626, one mounted head of *Rhinoplax vigil*; *cf.* Anonymous, 1626). 1 [part of a] specimen.

Reggio Emilia, Centro Museo Universitario di Storia Naturale e della Strumentazione Scientifica (C. Violani, pers. com., Oct. 2003): *ex parte coll.* Lazzaro **Spallanzani** (1729-1799, *leg. & coll.* 1771-1799). *c.* 50 specimens.

Rostock, Zoologische Sammlung der Universität Rostock•: *colls.* Georg **Lembcke** (1753-1822, *leg. ante* 1804; *cf.* Kinzelbach et al., 1997) & **Mecklenburgische Naturforschende Gesellschaft** / Adolf Christian **Siemssen** (1768-1833, *leg. ante* 1805; *cf.* Kinzelbach et al., 1997). 2-5 specimens.

Rudolstadt, Thüringer Landesmuseum Heidecksburg (E. Mey, pers. com., Mar. 2004): *coll.* Fürst Friedrich Carl von **Schwarzenburg-Rudolstadt** (1737-1790; Baege, 1963): *c.* 10 specimens [plus an egg collection from *c.* 1780].

St. Petersburg, Zoologicheskii Institut Rossiiskoi Akademii Nauk (R. Potapov, in litt., Jul. 2002, Oct. 2002; U. Wannhoff, pers. com., Nov. 2002): *colls.* ? Tsar **Pjotr I** Aleksejewitsh Balšoj [Peter the Great] (1682-1725, *cf.* Whitehead, 1970) *incl. colls.* ? Frederik **Ruysch** (1638-1731, *coll. ante* 1710, *cf.* Stresemann, 1951; Kistemaker, 2003; Marenk & Prinzewa, 2003; Middelkoop, 2003), *ex parte* ? Albertus **Seba** (1665-1736, *cf.* Stresemann, 1951; Whitehead, 1970; Kistemaker, 2003) & *via* Herzog **Friedrich von Holstein-Gottorp** (in 1651), ? Bernardus **Paludanus** (1550-1633, *cf.* Stresemann, 1951); ? Johann Georg **Gmelin** (1709-1755, *acqu.* 1741, *cf.* Stresemann, 1923), ? Daniel Gottlieb **Messerschmidt** (1685-1735, *cf.* Stresemann, 1923; Gebhardt, 1964), Georg Wilhelm **Steller** (1709-1746, *leg.* 1741-46, *cf.* Gebhardt, 1964, 1970; one likely specimen), ? Johann Anton **Güldenstädt** (1745-1781, *leg. ante* 1775, *cf.* Stresemann, 1923; Gebhardt, 1964), ? Carl Ludwig **Hablizl** (1752-1821, *cf.* Gebhardt, 1964), ? Ivan Ivanovich Lepekh'in *alias* **Lepechin** (?1737-1802, *cf.* Stresemann, 1923), ? **Falck** (*fl.* 1768-1774, *coll.* 1768, *cf.* Stresemann, 1923) & ? Samuel Gottlieb **Gmelin** (1744-1774, *leg.* 1767-1774, *cf.* Gebhardt, 1964); *ex parte coll.* ? Carl Heinrich **Merck** (1761-1799, *cf.* Gebhardt, 1964), ? Karl **Krebs** (*coll.* 1786-1794, *cf.* Gebhardt, 1964; Roselaar, 2003) & ? Peter Simon **Pallas** (1741-1811, *cf.* Roselaar, 2003). ? <10 specimens (most early specimens vanished before 1831, *cf.* archival note of J.F. Brandt 1831).

Schleusingen, Naturhistorisches Museum Schloss Bertholdsburg (R. Werneburg, in litt., Jan. 2003): *coll.* √ **Forstakademie Dreißigacker** bei Meiningen (*acqu.* 1803 & 1807; two half-birds arranged to pictures). √ 2 [parts of] specimens.

Stockholm, Naturhistoriska Riksmuseet (G. Frisk & E. Ahlander, in litt., Dec. 2002): *colls.* **Kungliga Svenska Vetenskaps-Akademien** (*ex parte pre* 1800, founder collection of museum), Konungen **Adolf Fredrik III** av Sverige (1710-1771, *coll.* Museum Drottningholm *ante/in* 1754/1764), Anders **Sparman** (1748-1820, South African *coll. leg.* 1772, 1775-1776, *cf.* Lönnberg, 1926; Gyldenstolpe, 1926a, b; Stresemann, 1951; Cook voyage *coll. leg.* 1772-1775, *cf.* Whitehead, 1969, 1978; Medway, 1976, 1979; Senegal *coll. leg.* 1787; 25 specimens), Carl von **Linné** (1707-1778; 2 specimens & *c.* 25 in alcohol), Adolf Ulrik **Grill** (1752-1797, *leg.* 1792 & *pars ante* 1797, *acqu.* 1828; 7 & 45 specimens) *incl. colls.* Per Gustaf **Lindroth** (1758-1809) & Anna Johanna **Grill** (fl. late 1800s); Johan Gustaf von **Carlsson** (1743-1801, *cf.* Lönnberg, 1926; Gyldenstolpe, 1926), ? Clas Fredrik **Hornstedt** (1758-1809, *coll.* East Indies *leg. ante* 1787, *acqu.* 1819/20, *cf.* Stresemann, 1923), (Baron) Gustaf Freiherr von **Paykull** (1759-1826, *leg. pars major ante* 1800, *acqu.* 1819/20, *cf.* Lönnberg, 1926; Horn et al., 1990; Fuller, 1999; 680 specimens), ? Erik Gustaf **Lönberg** (1764-1808), ? Gustaf Johan **Billberg** (1772-1844, *acqu.* 1809), ? Samuel **Fahlberg** (1758-1834, *coll.* West Indies), ? Olof Peter **Swartz** (1760-1818, *cf.* Lönnberg, 1926) & Conrad **Quensel** (1767-1806); *ex parte coll.* ? Charles Willson **Peale** (1741-1827, *acqu.* 1791, *cf.* Lönnberg, 1926). >600 specimens.

Strasbourg, Musée Zoologique de l'Université Louis Pasteur et de la Ville de Strasbourg• (M.-D. Wandhammer, in litt., Febr. 2003): *coll.* Johann (*alias* Jean) **Hermann** (1738-1800, *coll.* 1760-1800, *cf.* Gebhardt, 1974) *incl. ex parte coll.* Peter Simon **Pallas** (1741-1811, *leg. ante* 1760, *cf.* Fuller, 1999: one specimen *Pinguinus impennis*). >100 specimens.

Stuttgart, Staatliches Museum für Naturkunde Stuttgart•: *coll.* √ Carl Christoph **Jaeger** (1773-1828, *leg.* 1797-1817, *cf.* Schüz, 1967; Warth & Ziegler, 1991; 1 specimen in museum's database). √ 1 specimen.

Torino, Museo Regionale di Scienze Naturali (C. Pulcher, in litt., 2001): *coll.* Franco Andrea **Bonelli** (1784-1830) *incl. ex parte coll.* William **Bullock** (*c.* 1773-1849) *incl. ex parte coll.* James **Cook** (1728-1779, *cf.* Bullock, 1819; Salvadori, 1914; Whitehead, 1978; Elter, 1986). 10-50, perhaps >50 specimens.

Tring, The Natural History Museum• (own data): *colls.* Thomas **Hardwicke** (1755-1835, Indian *coll. leg. ante* 1818, *cf.* Sharpe, 1906) & Thomas **Pennant** (1726-1798, *cf.* Sharpe, 1906); *pars major coll.* George **Montagu** (1753-1815, *cf.* Leach, 1816; Sharpe, 1906) *incl.* one specimen of John **Latham** (1740-1837); & Sir Joseph **Banks** (1743-1820, *cf.* Knox & Walters, 1992); *ex parte colls.* Hans **Sloane** (1660-1753, *cf.* Clutton-Brock, 1994; Steinheimer, 2003e; Steinheimer & Cooper, 2003), James **Cook** (1728-1779, *cf.* Salvadori, 1891; Stresemann, 1949, 1950; Lysaght, 1959; Burton, 1969; Whitehead, 1969, 1971, 1978; Sweet, 1970a; Steinheimer, 2003a, c), Ashton **Lever** (1729-1788, *cf.* Anonymous, 1790; Donovan, 1806; Mullens, 1917-1918; Stresemann, 1951; Chalmers-Hunt, 1976; Alexander, 1985; Jackson, 1998; Mearns & Mearns, 1998; Steinheimer, 2003c; Walters, 2004), Archibald **Menzies** (1754-1842, *leg.* 1792, *cf.* Eastwood, 1924; Stresemann, 1951; Warren, 1966; Wilbur, 1978; Galloway & Groves, 1987; Mearns & Mearns, 1998), Edward **Donovan** (1768-1837, *leg.* W. Hammond *ante/in* 1787, *cf.* Warren, 1966), **Linnean Society of London** *via* George **Shaw** (1751-1813, *ex parte minor leg. ante/in* 1789, *cf.* Warren, 1966), William

Bullock (c.1773-1849; ? *ex parte via* Benjamin Leadbeater, Mr J. E. Warwick, Nicholas Aylward Vigors & Coenraad Jacob Temminck in 1839-1846, *cf.* Bullock [*i.a.*], 1809, 1811, 1812, 1813; Alexander, 1985; Knox & Walters, 1994; Steinheimer, 2003c), [?Emmanuel] **Baillon** (?-?1802, entries in 'Leach Catalogue' 1813-1832), $\dot{\iota}$ [?Alexander/William Sharp] **Macleay** (1767-1848/1792-1865, *cf.* entries in 'Leach Catalogue' 1813-1832; Stanbury & Holland, 1988), $\dot{\iota}$ Antoine Nicolas François Dubois Comte de **Riocour** (1761-c.1830s, *cf.* Sharpe, 1906; Stresemann, 1951; <http://www.culture.fr/documentation/>; *fide* Fuller, 1999: 231 *leg. post* c.1820), $\dot{\iota}$ Coenraad Jacob **Temminck** (1778-1858), $\dot{\iota}$ Alexander **Huey** (*acqu. ante* 1832, *cf.* McCormick, 1987) & $\dot{\iota}$ Baron Guillaume Michel Jerome Meiffren-**Laugier** de Chartrouse (1772-1843, *cf.* Sharpe, 1906; Whitehead, 1978; Steinheimer, 2003c), $\dot{\iota}$ William **Swainson** (1789-1855) &, *via* Mr [*nec* Jean-Baptiste] **Bécoeur** *ad* Thomas **Thompson** (*fl.* 1790-1814) & Colonel Emperor John Alexander **Woodford** (*fl.* 1791), *ex parte coll.* ? Jacques-Julien H. de **Labillardière** (1755-1834, *leg.* 1791-1794, *cf.* Stresemann, 1953a) & ? Antoine **Riche** (1762-1797, *leg.* 1791-1794, *cf.* Stresemann, 1953a). >200 specimens.

Uppsala, Evolutionsmuseet, Zoologi-sektionen, Uppsala Universitet: *colls.* Carl von **Linné** (1707-1778) *incl. ex parte coll.* Jonas **Alströmer** (*acqu. c.* 1749, *cf.* Stresemann, 1923); Magnus **Lagerström** (*leg. ante* 1750), Clas Fredrik **Hornstedt** (1758-1809, *leg. ante* 1789), Adam **Azelius** (1750-1837, *leg. ante* 1802), Carl Peter **Thunberg** (1743-1828, *acqu.* 1775, *cf.* Stresemann, 1923) & $\dot{\iota}$ Konungen **Gustav IV Adolf Fredrik** av Sverige (1778-1837, *leg. ante* ?1809) (*cf.* Lönnberg, 1896; Horn et al., 1990; Wallin, 1992; Wallin & Wallin, 1994; Wallin, 1996; Wallin 1997). 11, probably 15-50 specimens.

Waldenburg, Heimatmuseum und Naturalienkabinett der Stadt Waldenburg (E. Mey, in litt., Sep. 2002): *coll.* Fürst Otto Victor I. von **Schönburg-Waldenburg** (1785-1859) *incl. colls.* Johann Heinrich **Linck** d. J. (1734-1807, *cf.* Seifert, 1935) & ? Johann Heinrich **Linck** d. Ä. (1674-1734) *incl. ex parte coll.* ? Johann Christoph **Richter** (1689-1751, *acqu.* 1784, *cf.* Seifert, 1935; Wilson, 1990: mainly minerals, not birds). <10 specimens.

Waltershausen-Schnepfenthal, Naturalienkabinett der Salzmannschule Schnepfenthal•: *colls.* Christian Gotthilf **Salzmann** (*coll. post* 1784) & Friedrich **Salzmann** (1774-1850, *prep.* 1791) *incl. colls.* forest man 'Herr' **Clauder** (*leg.* 1791), 'Schüler' **Ausfeld** & von **Busche** (*leg.* 1790, *i.e.* pupils of Schnepfenthal); & *ex parte colls.* Johann Christoph **Richter** of Leipzig (1689-1751, *cf.* Seifert, 1935; Pfauch & Pfauch, 1984; Wilson, 1990) &, *via* Henri **Marc** (1771-1841), Johann Matthaeus **Bechstein** (1757-1822, *leg.* 1789, *cf.* Pfauch & Pfauch, 1984; Pfauch 1990). 13 specimens with data, but probably 20-30 pre 1800.

Warszawa, Polska Akademia Nauk, Muzeum i Instytut Zoologii (J. Szwed, in litt., Feb. 2003): *coll.* Sylvius (Silvius) August von **Minckwitz** (1772-1818, *coll. pars major* 1792-1805, *cf.* Pax, 1923a; Pax, 1925, *nec* Gebhardt, 1964). $\dot{\iota}$ 28 specimens.

Weimar, Naturwissenschaftliche Sammlung des Goethe-Nationalmuseums: *coll.* $\dot{\iota}$ Johann Wolfgang von **Goethe** (1749-1832, *cf.* Klausewitz, 2000). < $\dot{\iota}$ 10 specimens.

Wien, Naturhistorisches Museum Wien• (E. Bauernfeind, in litt., July 2002, Aug. 2002, Oct. 2003, June 2004; own data): *colls.* ? Nicolaus Joseph Franz von **Jacquín** (1727-1817, Caribbean *coll.* 1755-1759, *cf.* Jacquín, 1784; Riedl-Dorn, 1998; Bauernfeind, 2003; probably one or more surviving specimens), Franz **Boos** (1753-1832, South African *coll.* 1785-1788), Georg **Scholl** (*coll.* 1785-1799), René **Maugé** (?-1802) / Nicolas **Baudin** (1754-1803, *leg.* Puerto Rico, Trinidad, Saint Thomas & Teneriffa, 1796-1797, *cf.* Ledru,

1810, Kaiser **Franz I** von Österreich (1708-1765, one specimen *in vivo* since 1752, *prep.* ? 1801, *fide* Schifter, 1996), Kaiser **Franz II** von Österreich (1768-1835, *coll.* Menagerie „Terrasse“ 1793-1806) & Joseph **Natterer** (?-1823, *prep. ante* 1793, *cf.* Schifter, 1993; Riedl-Dorn, 1998); *ex parte colls.* Ashton **Lever** (1729-1788, *cf.* Pelzeln, & Lorenz, 1886, 1887a, 1887b, 1888; Bauernfeind, 2004; Walters, 2004) *incl. ex parte coll.* James **Cook** (1728-1779, *leg.* 1772-1775 & 1776-1780, *cf.* Donovan, 1806; Pelzeln, 1873; Jackson, 1998), John **White** (c. 1756-1832, *leg. ante* 1790, *cf.* White, 1790; Pelzeln & Lorenz, 1886: 252) & Capt. [?Robert G.] **Middleton** (*coll.* ?~1795); Baron S. **Zois** von Laibach (*i.e.* Ljubljana, 1747-1819, *coll. ante* 1808-1815), & [? Christoph (1753-1824) *vel* Achaz (1755-1855)] Freiherr [Baron] von **Stiebar** *alias* Stieber (*acqu.* 1806), Louis **Dufresne** (1752-1832), & Coenraad Jacob **Temminck** (1778-1858, *cf.* Pelzeln & Lorenz, 1886, 1887a, 1887b, 1888) *incl. ex parte coll.* ? François **Levaillant** (1753-1824, South African specimens *leg.* 1782-83); [? Jean-Baptiste] **Bécoeur** (*coll. ante* 1806-1815), Aegydius **Kratky** (1750-1818, *coll.* Weinviertel 1774-1791 (? 1812) & *aliae colls. ante* c. 1816, *cf.* Hochebner & Bauernfeind, 2002), **Spalowski** (*coll. ante* ~1790, Schifter & Bauernfeind, *in prep.*), ? François **Levaillant** (1753-1824, *coll. ante* 1795) & & William **Swainson** (1789-1855, *cf.* Stresemann, 1951; Roselaar, 2003) *incl. ex parte coll.* ? William **Bullock** (c.1773-1849, *cf.* Sharpe, 1906). c. 300 specimens.

Wien, Zoologische Sammlung der Formal- und Naturwissenschaftlichen Fakultät der Universität Wien • (H.-L. Nemeschkal, *in litt.*, Nov. 2002): *coll.* ? Graf Franz Anton Hannibal von **Thurn & Valsassina** (?-1768, *acqu.* 1773, *cf.* Stresemann, 1923; no certain specimen found). ? specimens.

Wroclaw, Muzeum Przyrodnicze Uniwersytetu Wroclawskiego: [*coll.* *Marie Friderici, *acqu.* 1779, *cf.* Peters, 1960: 30: one specimen of *Neophema pulchella*, but the only possible but highly unlikely origin would have to be Byron's or Cook's voyages, *cf.* Shaw, 1792; Pax, 1923b]. Probably 0 specimen.

Other collections, which are quoted in literature of having (uncertain) 18th century bird specimens, are found in Coburg (Aumann, 1969), Erlangen (Gengler, 1912; Roselaar, 2003; for scope of *coll. cf.* Hahn, 1818-1823; Hahn & Küster, 1834-1841; Mr Weidemann, *pers. com.*, Nov. 2002: no collection access possible), Görlitz (Heyder, 1926; H. Ansorge, *pers. com.*, Feb. 2003: specimens not found), Gotha (Baege, 1964), Jena (Baege, 1963; D. v. Knorre, *in litt.*, Oct. 2002: no 18th century bird specimen yet traced, but existence of such could be possible), Lund (Roselaar, 2003), Trondheim (Roselaar, 2003; O. Hogstad, *in litt.*, Mar. 2003: oldest known bird being from 1809), Wiesbaden (Groß, 1968; F. Geller-Grimm, *in litt.*, Jan. 2003: specimens not found) and Wroclaw (school collection, Pax, 1925).

This list has a preliminary character, though I tried to include most pre-nineteenth century bird collections, which are mentioned in literature, enquired data of colleagues world-wide and studied many collections myself. Institutions contacted, which replied of having no or no certain record of 18th century bird specimens (yet found), are listed in the acknowledgements only. I am also fully aware that there are many more 'old' collections in Europe, especially in Italy, Germany, Austria, Czech Republic and France. Some of them are housed in private manors, others in schools, universities, castles and monasteries. For example, Mey (1988) accounted for 20 and more natural history collections, which existed alone in the county of Thuringia, Germany, during the 18th century. Another weak point of the work are specimens which have changed ownerships several

times or were sold via dealers such as Benjamin Leadbeater from London and Émile Parzudaki of Paris, who both dealt with 18th century birds (cf. Sharpe, 1906; Stresemann, 1951; Farber, 1982). I would appreciate any addition or correction to this list made known to me.

Importance of 18th century bird specimens

In general terms, the older the collection the higher is the number of types, specimens of extinct species, first country records and rare specimens. Unfortunately, one would find the reversed relations regarding data. For example, all birds used for Linné's *Systema Naturae* (1758) have type status. Still a big proportion of birds mentioned in Gmelin (1788, 1789), who latinized Latham's (1781-1785) and others' bird descriptions, are types. James Cook met birds in the Pacific region, which have subsequently never been collected anymore, such as the White-winged Sandpiper *Prosobonia leucoptera* (Gmelin, 1789). The only two examples of the White Gallinule *Porphyrio albus* (White, 1790), now at Vienna and Liverpool Museums, as well as the Mascarene Parrot *Mascarinus mascarinus* (Linné, 1771), housed at Paris and Vienna Museums, are from the 18th century. One could continue to explore such examples. More important, though, is to point out that some of these bird specimens are still awaiting to be discovered among museum holdings. Rarely there is any evidence on the labels, but intensive research in archives and secondary literature might help to trace the fate of missing types. This list here is thought as a first step towards a better understanding of the whereabouts of 18th century bird collections. The cited literature will guide researchers to additional data on the specimens in question.

Acknowledgements

I would like to thank Karl Schulze-Hagen (Mönchengladbach), who has been the biggest promoter of this historical study. Furthermore, I would not have been able to compile the list of 18th century bird specimens without the help of following colleagues: Mark Adams (Tring), Erik Ahlander (Stockholm), Miloš Andíra (Praha), Hermann An-sorge (Görlitz), Igor Askeyev (Kazan), Oleg Askeyev (Kazan), Gerhard Aubrecht (Linz), Josefina Barreiro (Madrid), Ernst Bauernfeind (Wien), Rüdiger Becker (Berlin), Wieslaw Bogdanowicz (Warszawa), Bettina Bonnichon (Paris), Cordula Bracker (Hamburg), Remý Bruckert (Paris), Tony Bürgin (St. Gallen), Wolf-Dieter Busching (Köthen), Fabrizio Cancelli (Siena), Douglas Causey (Cambridge, Mass.), Giorgio Chiozzi (Milano), Joël Clary (Lyon), Joanne Cooper (Tring), Paul Cooper (London), Ann Datta (London), Barry Davis (London), René Dekker (Leiden), Dieter Döllner (Bamberg), Gertrud Döllner (Bamberg), Kerstin Dudley (Göttingen), Alison Eichelberger (Lancaster, U.S.), Siegfried Eck (Dresden), Mats Eriksson (Uppsala), Joseph Feldner (Villach), Jürgen Fiebig (Berlin), Clem Fisher (Liverpool), Jon Fjeldså (Copenhagen), Michaela Forthuber (Braunschweig), Sylke Frahnert (Berlin), Göran Frisk (Stockholm), Alexander Gehler (Wolfsburg), Fritz Geller-Grimm (Wiesbaden), Eva Gilch (Burghausen), Jürgen Götze (Admont/Berlin), Gary Graves (Washington), Herbert Grimm (Erfurt), Marcel Güntert (Bern), Sabine Hackethal (Berlin), Alison Harding (Tring), Cornelis Hazevoet (Lisboa), Dietrich Heidecke (Halle), Wolfgang Heimler (Erlangen), Gerhard Hildebrandt (Gnetsch),

Christoph Hinkelmann (Bardowicke), Olav Hogstad (Trondheim), Tony Irwin (Norwich), Pavel Janda (Praha), Mike Jessat (Altenburg), Les Jessop (Newcastle upon Tyne), Ulrich Joger (Darmstadt), Leo Joseph (Philadelphia), Mikhail Kalyakin (Moskwá), Ingeborg Kiliás (Berlin), Ragnar Kinzelbach (Rostock), Konrad Klemmer (Frankfurt/M.), Dietrich von Knorre (Jena), Pater Amand Kraml (Kremsmünster), Oliver Krone (Berlin), Gundolf Krüger (Göttingen), Hannelore Landsberg (Berlin), Malcolm Lagen (Liverpool), Mary LeCroy (New York), Klaus Liedel (Halle/S.), Heide Link (Halle/S.), Craig Ludwig (Washington), Christian Marti (Sempach), Matthias Mäuser (Bamberg), Dieter Mahsberg (Würzburg), André Maire (Lyon), Peter Mansfeld (Kassel), Gerald Mayr (Frankfurt/M.), Eberhard Mey (Rudolstadt), Michael Meyer (Leipzig), Henry McGhie (Manchester), Bob McGowan (Edinburgh), Hans-Walter Mittmann (Karlsruhe), Nicolas Morel (Le Mans), Pat Morris (Bristol), Hans-Leo Nemeschkal (Wien), Bernd Nicolai (Halberstadt), Paola Nicolosi (Padova), Peter Nisi (Hannover), Annamaria Nistri (Firenze), Ruggero Noto la Diega (Palermo/Berlin), Malgosia Nowak-Kemp (Oxford), Vittorio Parisi (Parma), Tony Parker (Liverpool), Eric Pasquet (Paris), Jana Pavlíšková (Budišov u Třebíče), Amandine Péquignot (Paris), Hans-Ulrich Peter (Jena), Marta Poggesi (Firenze), Roald Potapov (St. Petersburg), Robert Prÿs-Jones (Tring), Claudio Pulcher (Torino), Christiane Quaisser (Dresden/Berlin), Phil Rainbow (London), Josef Reichholf (München), Maggie Reilly (Glasgow), Kees Roselaar (Amsterdam), Jörn Scharlemann (Cambridge), Herbert Schifter (Wien), Christiane Schilling (Hannover), Rolf Schlenker (Radolfzell), Dirk Schmidt (Schnepfenthal), Karl-Ludwig Schuchmann (Bonn), Pieter Smit (Amsterdam), Siegfried Sparing (Heidelberg), Christel, Jörg, Karla, Renate & Winfried Steinheimer (Nürnberg), Egeberth Steinicke (Halle/S.), Helena Sutorová (Brno), Paul Sweet (New York), Jacek Szewedo (Katowice), Ray Symonds (Cambridge), Walther Thiede (Köln), Gert Tröster (Göttingen), Jean-François Voisin (Paris), Michael Walters (Tring), Marie-Dominique Wandhammer (Strasbourg), Ulrich Wannhoff (Berlin), Effie Warr (Tring), Bernd Weidemann (Erlangen), Ralf Werneburg (Schleusingen), Pater Wichmann (Seitenstetten), Andreas Wilts (Donaueschingen), Friedericke Woog (Stuttgart), Marco Zanatello (Bologna), Erhard Zenker (Wiesbaden), Rudolf Zilch (Erlangen), Edita Žlebková (Jeseník nad Odrou) and Marco Zuffi (Pisa). The Department of Zoology of The Natural History Museum kindly funded my studies at Norwich, Liverpool, Paris and Leiden. The main literature work has been compiled in the libraries of The Natural History Museum London/Tring, Museum für Naturkunde Berlin and Bibliothek der Deutschen Ornithologen-Gesellschaft. Last but not least I would like to thank René Dekker and Kees Roselaar for comments on an earlier draft.

Archival records

- Anonymous, 1626. Inventario della Galleria e del Giardino de' Semplici di Sua Altezza Serenissima in Pisa (*cf.* Garbari et al., 1991).
- Anonymous, [1813-1816]. *Catalogus Avium Musei regii Berolinensis (II. Aves)*, Kataloge der Ornithologischen Abteilung, Museum für Naturkunde der Humboldt-Universität zu Berlin.
- Anonymous, [c. 1832]. *Catalogus Avium*. Ornithologische Abteilung, Senckenberg-Museum, Frankfurt/M.
- Humphrey, G., 1782. *Catalogue of Manufactures, Mechanical Performances and other Inventions of the Natives of the new-discovered, or but seldom visited Countries in the pacific Ocean, &c.* Archiv des

- Institut für Ethnologie, Völkerkundliche Sammlung der Universität Göttingen (cf. Hauser-Schäublin & Krüger, 1998: 63).
- Illiger, J.C.W., 1812. Verzeichnis der Vögel. Museum für Naturkunde der Humboldt-Universität zu Berlin, Historische Bild- und Schriftgutsammlungen, Bestand Zool. Mus. SI, Verz. Vögel 1812.
- Rammelsberg, [sine annu]. [Abschrift der Aufzeichnungen des Inspektors Rammelsberg über die Entwicklung des Museums von 1811-1856]. Stresemann-Sonderdrucksammlung der Ornithologischen Abteilung S.106.e.69, Museum für Naturkunde der Humboldt-Universität zu Berlin.
- Soubry, J.A.I., 1736-1737. Archives Municipales de Lyon: inventaire d'archives - BB 374 élection de 1736-37 - ex libris.

References

- Ahrens, T.G., 1925. The ornithological collection of the Berlin Museum.— Auk 42: 241-245.
- Alexander, E.P., 1985. William Bullock: Little-Remembered Museologist and Showman.— Curator 28(2): 117-147.
- Angst, R., 1985. Kurze Geschichte der Zoologischen Abteilung: 49-63.— In: S. Rietschel, (ed.). Vom Naturalienkabinett zum Naturkundemuseum 1785-1985 – Gesch. Landessamml. Naturk. Karlsruhe: 1-84. Karlsruhe.
- Anonymous, 1790. A companion to the Museum, (Late Sir Ashton Lever's) Removed to Albion Street, the Surry End of Black Friars Bridge. Pt. 1 & 2: 1-122.— London.
- Anonymous, 1836. A Catalogue of the Ashmolean Museum, descriptive of the zoological specimens, &c.: 1-188.— Oxford.
- Asma, S.T., 2001. Stuffed Animals & Pickled Heads - The culture and evolution of Natural History Museums: 1-302.— New York.
- Aumann, G., 1969. Die ornithologische Sammlung des Natur-Museums in Coburg.— Jahrb. Coburger Landesstift. 1969: 351-374.
- Baegé, L., 1963. Friedrich Christian Günther - Ein Thüringer Ornithologe des 18. Jahrhunderts.— Abhandl. Ber. Naturk. Mus. „Mauritianum“ Altenburg 3: 5-38.
- Baegé, L., 1964. Über ehemalige private Vogelsammlungen in Thüringen – Ihre Entstehung, ihr Schicksal und Verbleib.— Beitr. Vogelk. 10(3): 129-147.
- Bangs, O., 1930. Types of Birds now in the Museum of Comparative Zoölogy.— Bull. Mus. Comp. Zool. Harvard Coll. 70(4): 146-426.
- Bauernfeind, E., 2003. The Vienna Bird Collection: History and Main Research Focus.— Bonner Zool. Beitr. 51(2-3): 147-149.
- Bauernfeind, E., 2004. Bird specimens from the Leverian Museum: documentation and present holdings at the NMW.— Festschrift für Univ. Prof. Dr. Horst Aspöck, Denisia 13 [in press].
- Benson, C.W., 1999. Type specimens of bird skins in the University Museum of Zoology, Cambridge, United Kingdom.— Brit. Orn. Cl. Occ. Publ. 4: 1-221.
- Berlioz, J., 1950. L'Histoire des Collections de Mammifères et d'Oiseaux du Muséum.— Bull. Mus., 2 série 22(2): 166-180.
- Bewick, T., 1826. A history of British birds. 159 & 146 vignettes.— Newcastle.
- Boettger, C.R., 1954. Entstehung und Werdegang des 200 jährigen Staatl. Naturhistorischen Museums zu Braunschweig.— Schr. Staatl. Naturh. Mus. Braunschweig: 1-28.
- Borkhausen, [M.B.], [J.W.] Lichthammer, C.W. Bekker, [G.] Lembke & Bekker der Jüngere, 1800. Teutsche Ornithologie oder Naturgeschichte aller Vögel Teutschlands in naturgetreuen Abbildungen und Beschreibungen. 2. Heft: 1-12. 1-6 pls.— Darmstadt.
- Brauer, [A.], 1910. Das zoologische Museum: 373-389.— In M. Lenz, (ed.). Geschichte der königlichen Friedrich-Wilhelms-Universität Berlin, Bd. III. Halle a.d. S.
- Bullock, W., 1809. A companion to the Liverpool Museum [...]. 7th ed. Richard Cruttwell. 1-78, I-VII.— Bath.
- Bullock, W., 1811. A companion to Mr. Bullock's Museum [...]. 10th ed. Henry Reynell. 1-150, I-VI.— London.

- Bullock, W., 1812. A companion to Mr. Bullock's London Museum [...]. 12th ed. Bullock. 1-57, 1-136, I-XII.— London.
- Bullock, W., 1813. A companion to London Museum [...]. 15th ed. Whittingham & Rowland. 1-151, I-XII.— London.
- Bullock, W., 1819. Catalogue of the Roman Gallery of Works of Art, and the London Museum of Natural History, which will commence selling by Auction [...]. Printed for W. Bullock. 1-146.— London.
- Burton, P.J.K., 1969. Two Bird Specimens probably from Cook's Voyages.— *Ibis* 111: 388-390.
- Busching, W.-D., 2001. Zur Geschichte der Sammlung des Altmeisters der mitteleuropäischen Vogelkunde Johann-Friedrich Naumann, im Naumann-Museum Köthen.— *Blätter Naumann-Museum* 20: 27-74.
- Busching, W.-D., 2002. Ein Führer durch das Naumann-Museum in Köthen (Anhalt): 1-48.— Köthen.
- Carreira, L., J.A Reis, M.T. Baptista & R. Ribeiro, 2000. Gabinete de História Natural - Revivências. *Mus. Zool. Univers. Coimbra, Sersilto*: 1-88.— Maia.
- Chalmers-Hunt, J.M., 1976. Natural History Auctions 1700-1972. Sotheby Parke Bernet. 1-189, I-XII.— London.
- Clutton-Brock, J., 1994. Vertebrate Collections: 77-92.— In: A. MacGregor, (ed.). *Sir Hans Sloane - Collector, Scientist, Antiquary - Founding Father of the British Museum*: 1-308. London.
- Damaschun, F., Böhme, G. & H. Landsberg, 2000. Naturkundliche Museen der Berliner Universität – Museum für Naturkunde: 190 Jahre Sammeln und Forschen. 86-106.— In: H. Bredekamp, J. Brüning & C. Weber (eds.). *Theater der Natur und Kunst – Theatrum Naturae et Artis. Essays Wunderkammern des Wissens, Humboldt-Universität zu Berlin & Henschel Verlag*, 1-280.— Berlin.
- Dekker, R., 1999. [bird chapters].— In R. Purcell, *Extinct and Endangered Animals - Swift as a Shadow*: 1-159, 1-65 pls. New York.
- Doberschiz, L., 1764. *Specula Cremifanensis - I. Band Beschreibung der in dem Mathematischen Thurme zu Cremsmünster befindlichen Naturalien, Instrumenten, und Seltenheiten.*— In Amand Kraml, (ed.), 1999, *Berichte des Anselm Desing Vereins Naturwissenschaftliche Sammlungen Kremsmünster No. 40* [G. Aubrecht, pers. com., Oct. 2002].
- Donovan, E., 1806. Catalogue of the Leverian Museum Part I-VI – The Sale of the entire collection: 1-296, 17.— London [author fide Largen, 1987].
- Dufresne, L., 1803. *Nouveau Dictionnaire d'Histoire Naturelle appliqué aux arts XXI*: 1-515.— Paris [cited in Piechocki, 1982].
- Eastwood, A., (ed.), 1924. *Menzies' California Journal (Journal of the Vancouver Expedition - With an introduction and notes by A. Eastwood).*— *Quart. California Hist. Soc.* 2(4): 265-340.
- Elter, O., 1986. La Collezione Ornitologica del Museo di Zoologia dell'Università di Torino.— *Cataloghi 8, Museo Regionale di Scienze Naturali, Torino*: 1-513.
- Farber, P.L., 1977. The Development of Taxidermy and the History of Ornithology.— *Isis* 68 (No. 244): 550-566.
- Farber, P.L., 1982. The emergence of ornithology as a scientific discipline: 1760-1850. *Studies in the History of Modern Science* 12, D: 1-191.— Dordrecht, Boston, London.
- Faxon, W., 1915. Relics of Peale's Museum.— *Bull. Mus. Comp. Zool., Cambridge, Mass.* 49(3): 119-148.
- Fisher, C., (ed.), 2002. *A Passion for Natural History - The Life and Legacy of the 13th Earl of Derby*: 1-240.— Liverpool.
- Fisher, C. & C.E. Jackson, 2002. The 13th Earl of Derby as a Scientist: 45-51.— In C. Fisher, (ed.). *A Passion for Natural History - The Life and Legacy of the 13th Earl of Derby*: 1-240. Liverpool.
- Forster, J.R., 1771. A catalogue of the animals of North America, [...] to which are added, short directions for collecting, preserving and transporting all kinds of natural history curiosities: 1-43.— London.
- Fuller, E., 1999. *The Great Auk*: 1-448.— Southborough.
- Fuller, E., 2001. *Extinct Birds*. Revised edition: 1-398.— Ithaca.
- Fuller, E., 2002. *Dodo: from extinction to icon*: 1-180.— London.
- Galloway, D.J. & E.W. Groves, 1987. Archibald Menzies MD, FLS (1754-1842, aspects of his life, travel and collections.— *Arch. Nat. Hist.* 14(1): 3-43.
- Garbari, F., L. Tongiorgi Tomasi & A. Tosi, 1991. *Giardino dei semplici - L' orto botanico di Pisa dal XVI al XX secolo*: 1-397.— Pisa.

- Gebhardt, L., 1964. Die Ornithologen Mitteleuropas: 1-404.— Giessen.
- Gebhardt, L., 1970. Die Ornithologen Mitteleuropas. Band 2.— J. Orn., Sonderheft 111:1-233.
- Gebhardt, L., 1974. Die Ornithologen Mitteleuropas. Band 3.— J. Orn., Sonderheft 115:1-126.
- Gengler, J., 1912. Die Klein'schen Vogelbilder.— J. Orn. 60(4): 570-591.
- Gijzen, A., 1938. 's Rijks Museum van Natuurlijke Historie 1820-1915: 1-335.— Rotterdam.
- Gmelin, J.F., 1788. Caroli a Linné [...] Systema Naturae, per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tom 1 (Pars I): 1-500.— Lipsia [Leipzig].
- Gmelin, J.F., 1789. Caroli a Linné [...] Systema Naturae, per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis. Tom 1 (Pars II): 501-1032.— Lipsia [Leipzig].
- Göbbel, L., E. Steinicke & R. Schultka, 2002. Die Anatomischen Sammlungen. Die Naturkundlichen Sammlungen der Martin-Luther Universität Halle-Wittenberg: 96-103.— In: E. Görgner, D. Heidecke, D. Klaus, B. Nicolai & K. Schneider, (eds.). Kulturerbe Natur - Naturkundliche Museen und Sammlungen in Sachsen-Anhalt: 1-175. Halle/S.
- Greenway, J.C., 1958. Extinct and Vanishing Birds of the World. Special Publication No. 13: 1-518.— New York.
- Groß, F.J., 1968. Zur Geschichte der Naturwissenschaftl. Sammlung in Wiesbaden und zu den neuen Aufgaben des Naturkundemuseums.— Das Leben 5(4): 87-90.
- Griffin, F.J., 1946. Present state of some German museums.— Nature 157(3993): 631-633.
- Gunther, A.E., 1975. A Century of Zoology at the British Museum Through the Lives of Two Keepers 1815-1914: 1-533.— Bristol, Folkestone.
- Gunther, A.E., 1980. The founders of science at the British Museum 1753-1900: 1-219.— Halesworth, Suffolk.
- Gyldenstolpe, N., 1926a. Några ord om utvecklingen av Naturhistoriska Riksmuseets samlingar av ryggradsdjur.— Svenska Jägarförb. Tidskr. 63(6): 324-342.
- Gyldenstolpe, N., 1926b. Types of Birds in the Royal Natural History Museum in Stockholm.— Ark. Zool. 19A(1): 1-116.
- Haffer, J., 1997. Ornithologen-Briefe des 20. Jahrhunderts.— Ökol. Vögel Bd. 19: 1-980.
- Hahn, C.W., 1818-1823. Voegeln aus Asien, Africa, America und Neuholland &c.: 1-68, 1-101 pls.— Nürnberg.
- Hahn, C.W. & H.C. Küster, 1834-41. Ornithologischer Atlas oder naturgetreue Abbildung und Beschreibung der aussereuropäischen Vögel - Erste Abtheilung Papageien (*Psittacus*, Linn.): 1-100, 1-79 pls.— Nürnberg.
- Hartert, E., 1891. Katalog der Vogelsammlung im Museum der Senckenbergischen Naturforschenden Gesellschaft in Frankfurt am Main: 1-259.— Frankfurt a.M.
- Hauser-Schäublin, B. & G. Krüger, 1998. James Cook - Gifts and Treasures from the South Seas, The Cook/Forster Collection, Göttingen: 1-351.— Munich, New York.
- Heyder, R., 1926. Aus der Frühgeschichte der Vogelkunde in der Oberlausitz.— Mitt. Ver. Sächs. Orn. 1(8): 185-207.
- Hildebrandt, G., 2001. Die Veröffentlichungen der Ornithologenfamilie Naumann in Zeitschriften. Aus dem Ornithologischen Verein „Johann Friedrich Naumann“: 1-335.— Köthen.
- Hochebner, T. & E. Bauernfeind, 2002. Eine frühe ornithologische Sammlung im Stift Lilienfeld: 83-88.— In: H. Schmid, (ed.). Zisterzienserstift Lilienfeld: 1-124.— Lilienfeld.
- Hohberg, W.H. von, 1682. Georgica curiosa, das ist: Umständlicher Bericht und klarer Unterricht vom dem adelichen Land- und Feld-Leben [...]. 2 parts: 1-702, 1-726.— Nürnberg.
- Holthuis, L.B., 1995. 1820-1958 Rijksmuseum van Natuurlijke Historie: 1-172.— Leiden.
- Holthuis, L.B., 2001a. Leiden and early natural history: 13-18.— In: J. van der Land, (ed.). The history of natural history in Leiden: 1-78. Leiden.
- Holthuis, L.B., 2001b. National Museum of Natural History/Naturalis: 19-26.— In J. van der Land, (ed.). The history of natural history in Leiden: 1-78.— Leiden.
- Horn, W., I. Kahle, G. Friese & R. Gaedike, 1990. Collectiones entomologicae: Ein Kompendium über den Verbleib entomologischer Sammlungen der Welt bis 1960: 1-573.— Berlin.

- Jackson, C.E., 1998. Sarah Stone - Natural Curiosities from the New Worlds: 1-159.— London.
- Jacobi, A., 1928. Eduard Pöppig als Ornithologe.— J. Orn. 76(2): 436-440.
- Jacquín, J.F. von, 1784. Beyträge zur Geschichte der Vögel: 1-45, 1-19 pls.— Wien.
- Jaeck, J.H., 1815. Taschenbuch auf 1815, enthaltend Beschreibungen von Naturalien- und Kunst-Sammlungen/allen Wasser- und Strassenbauern Bamberg's etc.: I-VIII, 1-152.— Erlangen.
- Jahn, I., 1985. Zur Vertretung der Zoologie und zur Entwicklung ihrer institutionellen Grundlagen an der Berliner Universität von ihrer Gründung bis 1920.— Wissensch. Zeitschr. Humboldt-Univ. Berlin, Math.-Naturwissensch. Reihe 34(3/4): 260-280.
- Jessop, L., 1999a. George Allan's grey-headed duck: two centuries of confusion partly resolved.— Trans. Nat. Hist. Soc. Northumbria 59(3): 83-92.
- Jessop, L., 1999b. The fate of Marmaduke Tunstall's collections.— Arch. Nat. Hist. 26: 33-49.
- Jessop, L., 1999c. Bird specimens figured by Thomas Bewick surviving in the Hancock Museum, Newcastle upon Tyne.— Trans. Nat. Hist. Soc. Northumbria 59(3): 65-82.
- Jessop, L. & R.H. Stobart, 2002. Specimens of bird species now threatened, or made extinct in recent times, in the collections of the Hancock Museum, Newcastle upon Tyne.— Trans. Nat. Hist. Soc. Northumbria 62: 123-152.
- Jessop, L. & R.P. Prŷs-Jones, in prep. The Green-headed Bunting: rediscovery of an 18th century holotype.— Bull. Brit. Orn. Cl.
- Joost, W., 2003. Über einige im Naturkundemuseum Leipzig vorhandene Vögel, die Carl Heinrich Merck (1761-1799) als Teilnehmer der Expedition von Joseph Billings (1758 oder 1761 - 1806) auf Kamtschatka sammelte.— Veröff. Naturkundemus. Leipzig 22: 60-65.
- Kinzelbach, R., 2002. Areal und Ausbreitung der Beutelmeise *Remiz pendulinus* (L., 1758) vor dem 19. Jahrhundert.— Ökol. Vögel 24(1): 65-95.
- Kinzelbach, R., N. Schmitz & A. Bick, 1997. Geschichte und Bestand der Vogelsammlung der Universität Rostock: 1-152.— Schwerin.
- Kistemaker, R.E., 2003. Seba und Ruysch - die Anfänge der petrinischen Kunstkammer - Peters Besuche in Holland: 54-66.— In B. Buberl & M. Dückerhoff, (eds.). Palast des Wissens - Die Kunst- und Wunderkammer Zar Peters des Großen. Bd. 2 (Beiträge): 1-325. München.
- Kittlitz, F.H. von, 1858. Denkwürdigkeiten einer Reise nach dem Russischen Amerika, nach Mikronesien und durch Kamtschatka. 2 vols: I-XVI, 1-383, 1-463, 1-4 pls.— Gotha.
- Klauswitz, W., 2000. Goethe und die Senckenbergische Naturforschende Gesellschaft. II: Goethe und Rüppell.— Natur und Museum.— Ber. Senckenb. Naturf. Gesells. 130(1): 1-12.
- Knox, A.G. & M.P. Walters, 1992. Under the skin: the bird collections of the Natural History Museum.— Bull. Brit. Orn. Cl., Cent. Suppl. 112A: 169-190.
- Knox, A.G. & M.P. Walters, 1994. Extinct and Endangered Birds in the collections of The Natural History Museum.— Bull. Brit. Orn. Cl., Occ. Publ. 1: 1-292.
- Kolb, A., 1983. 180 Jahre Naturkunde-Museum Bamberg Linder'sche Stiftung.— Ber. Naturf. Gesells. Bamberg LVII: 130-150.
- Largen, M.J., 1987. Bird specimens purchased by Lord Stanley at the sale of the Leverian Museum in 1806, including those still extant in the collections of the Liverpool Museum.— Arch. Nat. Hist. 14(3): 265-288.
- Latham, J., 1781-1785. A General Synopsis of Birds. Vols. 1-3: I-VI, 1-788, I-II, 1-808, I-III, 1-628, I-CVI pls.— London.
- Latham, J., 1785. A General Synopsis of Birds. Vol. 3 (1): 1-328.— London.
- Leach, W.E., 1816. Systematic catalogue of the specimens of the indigenous mammalia and birds that are preserved in The British Museum: with their localities and authorities - to which is added a list of the described species that are wanting to complete the collection of British mammalia and birds: 1-43.— London.
- Ledru, A.P., 1810. Voyage aux Îles de Ténériffe, la Trinité, Saint-Thomas, Sainte-Croix et Porto-Ricco: execute par ordre du Gouvernement Français, depuis le 30 Septembre 1796 jusqu'au 7 Juin 1798 [etc.]: I-XLVIII, 1-315.— Paris.
- Lichtenstein, A.A.H., 1793. Catalogus rerum naturalium rarissimarum sectio prima continens mammalia & aves [...]: 1-60.— Hamburg.

- Lichtenstein, M.H.C., 1818. Ehrendenkmal des Herrn J.C.W. Illiger.— Abh. Königl. Akad. Wiss. Berlin 1814-1815: 48-64.
- Linné, C. von, 1758. [...] *Systema Naturae per regna tria naturae, secundum classes, ordines, genera, species cum characteribus, differentiis, synonymis, locis* [...]. Editio decima reformata [10th edition]. Vol. 1: 1-824.— Holmia [Stockholm].
- Linné, C. von, 1766. [...] *Systema Naturae, per regna tria naturae, secundum classes, ordines, genera, species cum characteribus, differentiis, synonymis, locis* [...]. Editio duodecima reformata [12th edition]. Vol. 1 pt. 1: 1-532.— Holmia [Stockholm].
- Lönningberg, E., 1896. Linnean type-specimens of birds, reptiles, batrachians and fishes in the Zoological Museum of the R. University in Uppsala.— Bih. Kongl. Svensk. Vet.-Akad. Handl. 22, Sect. 4(1): 1-45.
- Lönningberg, E., 1926. The ornithological collection of the Natural History Museum in Stockholm.— Auk 43: 434-445.
- Lysaght, A.M., 1959. Some eighteenth century bird paintings in the library of Sir Joseph Banks (1743-1820).— Bull. Brit. Mus. (Nat. Hist.), Hist. Ser. 1(6): 251-371.
- Mäuser, M., 1995a. Das neue Naturkunde-Museum Bamberg.— Ber. Naturf. Gesells. Bamberg 69/1994: 121-132.
- Mäuser, M., 1995b. Zur Gründung des Bamberger Naturalienkabinetts durch Fürstbischof Franz Ludwig von Erthal: 235-243.— In: R. Baumgärtel-Fleischmann, (ed.). Franz Ludwig von Erthal, Fürstbischof von Bamberg und Würzburg 1779-1795: 1-384. Bamberg.
- Marenk, G. & G. Prinzewa, 2003. Fredericus Ruysch: 82-85.— In: B. Buberl & M. Dückerhoff, (eds.). Palast des Wissens - Die Kunst- und Wunderkammer Zar Peters des Großen. Bd. 1 (Katalog): 1-285. München.
- McCormick, T., (ed.) 1987. First views of Australia 1788-1825: a history of early Sydney: 1-340.— Chippendale.
- Mearns, B. & R. Mearns, 1998. The Bird Collectors: 1-472.— San Diego.
- Meisner, F. & H.R. Schinz, 1815. Die Vögel der Schweiz, systematisch geordnet und beschrieben mit Bemerkungen über ihre Lebensart und Aufenthalt: 1-328.— Zürich.
- Medway, D.G., 1976. Extant Types of New Zealand Birds from Cook's Voyages: The Type Specimens.— Notornis 23(2): 120-137.
- Medway, D.G., 1979. Some ornithological results of Cook's third voyage.— J. Soc. Bibl. Nat. Hist. 9(3): 315-351.
- Merrem, B., 1784. Beiträge zur besondern Geschichte der Vögel gesammelt von Blasius Merrem. Erstes Heft: I-VIII, 1-24, 1-6 pls.— Göttingen, Leipzig.
- Mey, E., 1988. Daten zur Geschichte des Naturhistorischen Museums Rudolstadt/Thür.— Rudolst. Naturh. Schr. 1: 3-19.
- Meyer, B. & J. Wolf, 1810. Taschenbuch der Deutschen Vogelkunde, oder kurze Beschreibung aller Vögel Deutschlands, & c. 1-614, I-XVII.— Frankfurt a. M.
- Middelkoop, N., 2003. Johan van Neck (um 1635-1714) - Die Anatomievorlesung des Dr. Frederik Ruysch, 1683: 81-82.— In: B. Buberl & M. Dückerhoff, (eds.). Palast des Wissens - Die Kunst- und Wunderkammer Zar Peters des Großen. Bd. 1 (Katalog): 1-285. München.
- Morris, P., 1981. The Antiquity of the Duchess of Richmond's Parrot.— Mus. J. 81: 153-154.
- Müller-Bahlke, T.J., 1998. Die Wunderkammer - Die Kunst- und Naturalienkammer der Franckeschen Stiftungen zu Halle (Saale): 1-127.— Halle/Saale.
- Mullens, M.A., 1917-1918. Some Museums of old London - II. William Bullock's London Museum.— Mus. J.: 51-56, 132-137, 180-187.
- Olson, S.L., 1986. An early account of some birds from Mauke, Cook Islands, and the origin of the 'Mysterious Starling' *Aplonis mavornata* Buller.— Notornis 33: 197-208.
- Oort, E.D. van, 1911. On the Catalogue of the Collection of Birds brought together by A. Vroeg.— Notes Leyden Mus. 34(1): 66-69.
- Os, P. van, (ed.), 1764. Beredeneerde Catalogus Van eene, by uitstek fraaye en weergaalooze Verzameling, zoo van Inlandsche als Uitheemsche Vogelen, Viervoetige en Gekorvene Dieren [...] door A. Vroeg: 1-16, 1-49, 1-7.— Gravenhage.

- Pallas, S.P., 1769a. Spicilegia Zoologica quibus novae imprimis et obscurae animalium species iconibus, descriptionibus atque commentariis illustrantur [...]. Fasc. V: 1-34, I-V pls.— Berlin.
- Pallas, S.P., 1769b. Spicilegia Zoologica quibus novae imprimis et obscurae animalium species iconibus, descriptionibus atque commentariis illustrantur [...]. Fasc. VI: 1-36, I-V pls.— Berlin.
- Parkinson, P., 1988. William Swainson's ornithological collections.— Arch. Nat. Hist. 15(1): 77-88.
- Pax, F., 1923a. Eine Sammlung schlesischer Vögel aus dem Ende des achtzehnten Jahrhunderts.— Ber. Ver. Schlesischer Orn. 9(2): 1-3.
- Pax, F., 1923b. Führer durch die Schausammlung des Zoologischen Museums in Breslau: 1-35.— Breslau [Wrocław].
- Pax, F., 1925. Sammlungen schlesischer Wirbeltiere.— Ostdeutscher Naturwart 1925(1): 44-51.
- Pelzeln, A. von, 1873. On the Birds in the Imperial Collection at Vienna obtained from the Leverian Museum.— Ibis 3: 14-54, 105-124.
- Pelzeln, A. von & L. von Lorenz, 1886. Typen der ornithologischen Sammlung des k. k. naturhistorischen Hofmuseums. I. Theil.— Ann. K. K. Naturhist. Hofmus. 1: 249-270.
- Pelzeln, A. von & L. von Lorenz, 1887a. Typen der ornithologischen Sammlung des k. k. naturhistorischen Hofmuseums. II. Theil.— Ann. K. K. Naturhist. Hofmus. 2: 191-216.
- Pelzeln, A. von & L. von Lorenz, 1887b. Typen der ornithologischen Sammlung des k. k. naturhistorischen Hofmuseums. III. Theil.— Ann. K. K. Naturhist. Hofmus. 2: 339-352.
- Pelzeln, A. von & L. von Lorenz, 1888. Typen der ornithologischen Sammlung des k. k. naturhistorischen Hofmuseums. IV. Theil (Schluss).— Ann. K. K. Naturhist. Hofmus. 3: 37-62.
- Peters, D.S., 1960. Ausgestorbene und seltene Vögel in den Zoologischen Museen von Breslau und Warschau.— Bonn. Zool. Beitr. 11(1): 26-32.
- Peters, J.L., 1937. Check-list of Birds of the World. III: 1-311.— Cambridge, Mass.
- Pfau, W., 1990. J.M. Bechstein - Mitgestalter des mitteldeutschen Aufklärungszentrums Schnepfenthal sowie Gründer der "Societät" 1795: 13-23.— In: Bezirksvorstand Suhl der Gesellschaft für Natur und Umwelt im Kulturbund der DDR, (ed.). Zur Würdigung der wissenschaftlichen Leistungen von Johann Matthäus Bechstein: 1-72. Suhl.
- Pfau, W. & W. Pfau, 1984. Die Vogelsammlung im historischen Naturalienkabinett der Salzmann-Schule.— Thür. Orn. Mitt. 32: 17-34.
- Pfeiffer, A., 1887. Die Vogelsammlung in der Sternwarte zu Kremsmünster. Separatabdruck aus dem 37. Programme des k.k. Ober-Gymnasiums zu Kremsmünster für das Schuljahr 1887: 1-47.— Linz.
- Piechocki, R., 1982. Über die Geschichte der Präparation von Vögeln.— Falke 29(4): 114-122.
- Popp, K.-G., (ed.), 1980. Cook der Entdecker: Georg Forster, 'Cook der Entdecker' / Georg Christoph Lichtenberg, Einige Lebensumstände von Captain James Cook' / Georg Forster, Fragmente über Kapitän Cooks letzte Reise und sein Ende': 1-264.— Leipzig.
- Prestwich, A.A., 1963. "I name this parrot..." - Brief biographies of men and women in whose honour commemorative names have been given: 1-118, 1-43.— Edenbridge.
- Riedl-Dorn, C., 1998. Das Haus der Wunder - Zur Geschichte des Naturhistorischen Museums in Wien: 1-308.— Wien.
- Roselaar, K., 2003. An inventory of major European bird collections: 253-337.— In: N.J. Collar, C.T. Fisher & C.J. Feare, (eds.). Why Museums Matter: Avian Archives in an Age of Extinction. Bull. Brit. Orn. Cl., Suppl. 123A: 1-360.
- Rounds, R.S., 1990. Men and Birds in South America 1492-1900: 1-190.— Fort Bragg.
- Rovati, C. & P. Galeotti, (eds.), 1999. Il Museo di Lazzaro Spallanzani 1771-1799 - Una camera delle meraviglie tra l'Arcadia e Linneo: 1-123.— Pavia.
- Rüppell, E., 1837. Monographie der Gattung *Otis*, vorzüglich nach den im Senckenbergischen naturhistorischen Museum aufgestellten Individuen.— Mus. Senckenbergianum. Abh. Geb. Beschr. Naturg. 2(3): 207-248, XIII-XV pls.
- Salvadori, T., 1891. Catalogue of the Psittaci, or Parrots, in the collection of the British Museum. British Museum (Natural History): I-XVII, 1-658, I-XVIII pls.— London.
- Salvadori, T., 1914. Notizie storiche intorno alla collezione ornithologica del Museo Torino.— Mem. Accad. Sci. Torino, ser. 2, 65(5): 1-50.

- Sarasin, F., 1940. Geschichte der Vogelsammlung des Basler Naturhistorischen Museums.— *Verh. Naturf. Gesells. Basel*, Band II: 13-24.
- Schifter, H., 1977. Zoologisches Kabinett/VII/4: 266-283.— In: Amt der OÖ Landesregierung Abteilung Kultur & Benediktinerstift Kremsmünster, (eds.). 1200 Jahre Kremsmünster: 1-326. Linz.
- Schifter, H., 1993. Johann Natterer und seine ornithologischen Entdeckungen in Brasilien, 1817-1835.— *Kat. OÖ. Landesmus., Neue Folge* 61: 155-180.
- Schifter, H., 1996. Vögel aus dem Tiergarten Schönbrunn im Naturhistorischen Museum Wien (III).— *Zool. Garten, Neue Folge* 66: 13-52.
- Schüz, E., 1967. 175 Jahre Staatliches Museum für Naturkunde in Stuttgart.— *Jahresh. Ver. vaterl. Naturk. Württemberg* 122 (Anlage): 1-40.
- Schulze-Hagen, K., F.D. Steinheimer, R. Kinzelbach & C. Gasser, 2003. Avian taxidermy in Europe from the Middle Ages to the Renaissance.— *J. Orn.* 144 (4): 459-478.
- Seiffert, A., 1935. Das Lincksche Naturalien- und Kunstkabinett in Leipzig (1670-1840) und seine teilweise Neuaufstellung im fürstlich Schönburgischen Naturalienkabinett in Waldenburg (Sachsen).— *Museumskunde Neue Folge* 7(1): 1-15.
- Sharpe, R.B., 1906. Birds: 79-515.— In: E.R. Lankester, (ed.). *The History of the Collections contained in the Natural History Departments of the British Museum. II* (3): 1-515.— London.
- Shaw, G., 1792. *The Naturalist's miscellany, or coloured figures of natural objects; drawn and described immediately from nature. Vol. 3.*— London [cited in Peters, 1937].
- Smit, P., A.P.M. Sanders & J.P.F. van der Veer, 1986. Hendrik Engel's Alphabetical List of Dutch Zoological Cabinets and Menageries. *Nieuwe Nederlandse Bijdragen tot de Geschiedenis der Geneeskunde en der Natuurwetenschappen* 19: 1-340.— Amsterdam.
- Stanbury, P. & J. Holland, (eds.), 1988. *Mr. Macleay's celebrated cabinet: the history of the Macleays and their museum: 1-171.*— Sydney.
- Steinbacher, J., 1967. Geschichte der ornithologischen Sektion.— *Senckenbergiana biol.* 48 Sonderh. B: 19-40.
- Steinheimer, F.D., 2003a. A hummingbird nest from James Cook's Endeavour voyage, 1768-1771.— *Arch. Nat. Hist.* 30(1): 163-165.
- Steinheimer, F.D., 2003b. The historical bird collection at Berlin Museum.— *Bull. Brit. Orn. Cl.* 123(3): 139.
- Steinheimer, F.D., 2003c. Darwin, Rüppell, Landbeck & Co. - Important Historical Collections at the Natural History Museum, Tring.— *Bonner Zool. Beitr.* 51(2-3): 175-188.
- Steinheimer, F.D., 2003d. Bamberg's Natural History Museum - Scientific Significance of Small Collections.— *Bonner Zool. Beitr.* 51(2-3): 141-146.
- Steinheimer, F.D., 2003e. A second hornbill head from Sir Hans Sloane's (1660-1753) Museum.— *Bull. Brit. Orn. Cl.* 123(4): 287-288.
- Steinheimer, F.D. & J.H. Cooper, 2003. Sir Hans Sloane's Rhinoceros Hornbill skull: an avian remnant from the founding period of the British Museum.— *Arch. Nat. Hist.* 30(1): 166-167.
- Stephan, B., 1985. Die Geschichte der Ornithologie in Berlin.— *Wissens. Zeitschr. Humboldt-Univ. Berlin, Math.-Naturwissens. Reihe* 34(3/4): 321-329.
- Stephan, J.K., 1807a. Vom Königlichen Naturalien-Kabinete zu Bamberg.— *Georgia - Zeit. Gebild. Welt* 90: 714-718.
- Stephan, J.K., 1807b. Vom Königlichen Naturalien-Kabinete zu Bamberg.— *Georgia - Zeit. Gebild. Welt* 93: 737-740.
- Stephan, J.K., 1807c. Vom Königlichen Naturalien-Kabinete zu Bamberg.— *Georgia - Zeit. Gebild. Welt* 96: 761-764.
- Stephan, J.K., 1807d. Vom Königlichen Naturalien-Kabinete zu Bamberg.— *Georgia - Zeit. Gebild. Welt* 100: 793-796.
- Stephan, J.K., 1807e. Vom Königlichen Naturalien-Kabinete zu Bamberg.— *Georgia - Zeit. Gebild. Welt* 102: 809-812.
- Stone, W., 1899. A study of the type specimens of birds in the collection of The Academy of Natural Sciences of Philadelphia, with a brief history of the collection.— *Proc. Acad. Nat. Sc. Philadelphia* [51]: 5-62.

- Stresemann, E., 1922. Die Entwicklung der Vogelsammlung des Berliner Museums unter Illiger und Lichtenstein.— J. Orn. 70(4): 498-503.
- Stresemann, E., 1923a. Die Anfänge ornithologischer Sammlungen.— J. Orn. 71(1): 112-126.
- Stresemann, E., 1923b. Die Rothalsgans, *Branta ruficollis* (Pall.), bei Greifswald.— Orn. Monatsb. 31(1): 15.
- Stresemann, E., 1925. Die ältesten Vogelbälge des Berliner Museums.— Orn. Monatsb. 33(1): 18.
- Stresemann, E., 1948. Dr. C.H. Mercks ornithologische Aufzeichnungen während der Billings'schen Expedition von Ochotsk nach Alaska (1787-1791).— Zool. Jahrb. (Syst.) 78: 111-114.
- Stresemann, E., 1949. Birds collected in the North Pacific area during Capt. James Cook's last voyage (1778 and 1779).— Ibis 91: 244-255.
- Stresemann, E., 1950a. Birds collected during Capt. James Cook's last Expedition (1776-1780).— Auk 67: 66-88.
- Stresemann, E., 1950b. Die brasilianischen Vogelsammlungen des Grafen von Hoffmannsegg aus den Jahren 1800-1812.— Bonner Zool. Beitr. 1: 43-51.
- Stresemann, E., 1951. Die Entwicklung der Ornithologie von Aristoteles bis zur Gegenwart. F.: 1-431.— Berlin.
- Stresemann, E., 1952. On the birds collected by Pierre Poivre in Canton, Manila, India and Madagascar (1751-1756).— Ibis 94: 499-523.
- Stresemann, E., 1953a. Vögel gesammelt von Labillardière während der „Voyage à la Recherche de Lapérouse“ (1791-1794).— Mitt. Zool. Mus. Berlin 29: 75-106.
- Stresemann, E., 1953b. Analyse von C.J. Temmincks „Catalogue Systématique“ (1807).— Zool. Med. Leiden 31(29): 321-331.
- Stresemann, E., 1958. Das Naturalienkabinett des Grafen Johann von Mattuschka und seine schlesischen Raritäten.— Beitr. Vogelk. 5(5/6): 241-247.
- Stresemann, E., 1975. Ornithology from Aristotle to the present; translated by Hans J. and Cathleen Epstein, edited by G. William Cottrell, with a foreword and an epilogue on American ornithology by Ernst Mayr: I-XII, 1-432.— Cambridge, Mass.
- Sutorová, H., 1999. Budišov u Třebíče - Zoologický Depozitář Moravského Zemského Muzea: 1-2.— Brno.
- Sutorová, H. & F. Hanák, 1997. Dermoplastické Preparáty v Zoologickém Depozitáři Moravského Zemského Muzea v Budišově u Třebíče. I. Ptáci (Aves).— Suppl. Acta Mus. Moraviae, Sc. Nat. LXXXI (1996): 1-62.
- Sweet, J.M., 1970a. William Bullock's collection and the University of Edinburgh, 1819.— Ann. Sc. 26(1): 23-32.
- Sweet, J.M., 1970b. The collection of Louis Dufresne (1752-1832).— Ann. Sc. 26(1): 33-71.
- Temminck, C.J., 1815. Histoire Naturelle Générale des Pigeons et des Gallinacés. 3: 1-757.— Amsterdam.
- Thomsen, P. & E. Stresemann, 1957. Johann Friedrich Naumann - der Altmeister der deutschen Vogelkunde - Sein Leben und seine Werke: 1-212.— Leipzig.
- Titschack, E., 1952. Kriegs- und Nachkriegsschäden der deutschen naturwissenschaftlichen Museen.— Bund deutsch. Naturwissens. Mus., Abt. B deutsch. Museumsb., Flugbl. 41: 1-20.
- Trunko, L., 1985. Vom fürstlichen Naturalienkabinett zum modernen Naturkundemuseum - Kurze Chronik der Landessammlungen für Naturkunde: 7-34.— In: S. Rietschel, (ed.). Vom Naturalienkabinett zum Naturkundemuseum 1785-1985 - Geschichte der Landessammlungen für Naturkunde Karlsruhe. 1-84.— Karlsruhe.
- Violani, C., 1988. Un bestiario barocco - Quadri di piume del Seicento milanese: catalogo della mostra: 1-126.— Milano.
- Wagstaffe, R., 1978. Type Specimens of Birds in the Merseyside County Museums (formerly City of Liverpool Museums): 1-33.— Liverpool.
- Wallin, L., 1996. Catalogue of type specimens - 2. General zoology: 1-67.— Uppsala.
- Wallin, L., 1997. Catalogue of type specimens - 4. Linnaean specimens: 1-128.— Uppsala.
- Wallin, L. & H. Wallin, 1994. Catalogue of type specimens - 1. C.P. Thunberg (1743-1828), Insecta: 1-78.— Uppsala.
- Walters, M., 2003. A Concise History of Ornithology - The lives and works of its founding figures: 1-255.— London.

- Walters, M., 2004. Birds depicted in a folio of eighteenth century watercolours by Sarah Stone.— *Arch. Nat. Hist.* 31(1): 123-149.
- Warren, R.L.M., 1966. Type-Specimens of Birds in the British Museum (Natural History) - Non-Passerines. 1: 1-320.— London.
- Warth, M. & B. Ziegler, 1991. Aus der Frühzeit des Naturalienkabinettes.— *Stuttgarter Beitr. Naturk.* 30, Ser. C: 5-19.
- White C.M.N. & M.D. Bruce, 1986. The Birds of Wallacea (Sulawesi, The Moluccas & Lesser Sunda Islands, Indonesia): 1-524.— London.
- White, J., 1790. Journal of a voyage to New South Wales with [...] plates of non-descript animals, birds, lizards, serpents, curious cones of trees and other natural productions: I-XV, 1-299, 1-35, 1-65 pls.— London.
- Whitehead, P.J.P., 1969. Zoological Specimens from Captain Cook's Voyages.— *J. Soc. Bibl. Nat. Hist.* 5(3): 161-201.
- Whitehead, P.J.P., 1970. Museums in the history of zoology. Part 1.— *Mus. J.* 70(2): 50-57.
- Whitehead, P.J.P., 1971. Museums in the history of zoology. Part 2.— *Mus. J.* 70(4): 155-160.
- Whitehead, P.J.P., 1978. A guide to the Dispersal of zoological Material from Captain Cook's voyages.— *Pacific Studies* 2(1): 52-93.
- Wilbur, S.R., 1978. The California Condor, 1966-76: A Look at its Past and Future. United States Department of the Interior Fish and Wildlife Service, No. 72. 1-136.— Washington.
- Wilson, A., 1810. American Ornithology: or the natural history of the Birds of the United States. 2.— Philadelphia [not seen by author; see Wilson & Bonaparte, 1831].
- Wilson, A., 1812. American Ornithology: or the natural history of the Birds of the United States. 4.— Philadelphia [not seen by author; see Wilson & Bonaparte, 1831].
- Wilson, A., 1813. American Ornithology: or the natural history of the Birds of the United States. 7.— Philadelphia [not seen by author; see Wilson & Bonaparte, 1831].
- Wilson, A., 1814. American Ornithology: or the natural history of the Birds of the United States. 9.— Philadelphia [not seen by author; see Wilson & Bonaparte, 1831].
- Wilson, A. & Ch.L. Bonaparte, 1831. American Ornithology, or, The natural history of the birds of the United States. 4 vols.— Edinburgh.
- Wilson, W.E., 1990. Hebenstreit's Museum Richterianum 1743.— *Mineral. Rec.* 21(5): 399-403.
- Zimdahl, W., 1980. Naumanns Leistung - Naumanns Vermächtnis.— *Falke* 27(2): 42-44.

Received: 18.vi.2004

Accepted: 30.vii.2004

Edited: C. v. Achterberg & R.W.R.J. Dekker

