



Edward Griffith's "Animal Kingdom" (1824–1835): revised dates of publication and analysis of volumes, with special reference to the Mammalia and Aves based on wrapper contents

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Abstract

Study of the publication history and methods of issuance of Edward Griffith's *Animal Kingdom* was conducted and results presented. Earliest known dates of publication are given for the 44 parts comprising the work, which was published from 1824 to 1835. These dates revise the dates given by Cowan in 1969, many of which were estimated or preliminary. Contents, pages, and association of plates with parts (if known) are presented. Copies with wrappers and contents intact allowed a detailed analysis of the original issuance of plates and pagination (before binding) of the some of the Mammalia parts and all of the Aves parts, which is presented.

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Introduction

The English translation of both editions of Cuvier's *Le Règne Animal* by Edward Griffith [herein referred to as "*Animal Kingdom*" (Fig. 1) see below for various full titles] was published in parts from 1824 to 1835 and comprised 16 volumes (the last volume being devoted to an index and overall taxonomic synopsis). The original intent of this work was to issue volumes in quarterly parts, three parts to a volume, and have volumes for all the major animal groups covered by Cuvier's work: Mammalia; Aves; Reptilia; Pisces; Annelida, Crustacea, and Arachnida; Mollusca and Radiata; and Insecta. A supplementary volume (Vol. 11) on vertebrate fossil remains (a subject not treated by Cuvier in *Le Règne Animal* but elsewhere) was added. A total of 44 parts eventually made up the entire series including the last index volume.

Due to delays in publication, the advertised quarterly time period was not always met and

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<http://hbs.bishopmuseum.org/dating/sherbornia/index.html>

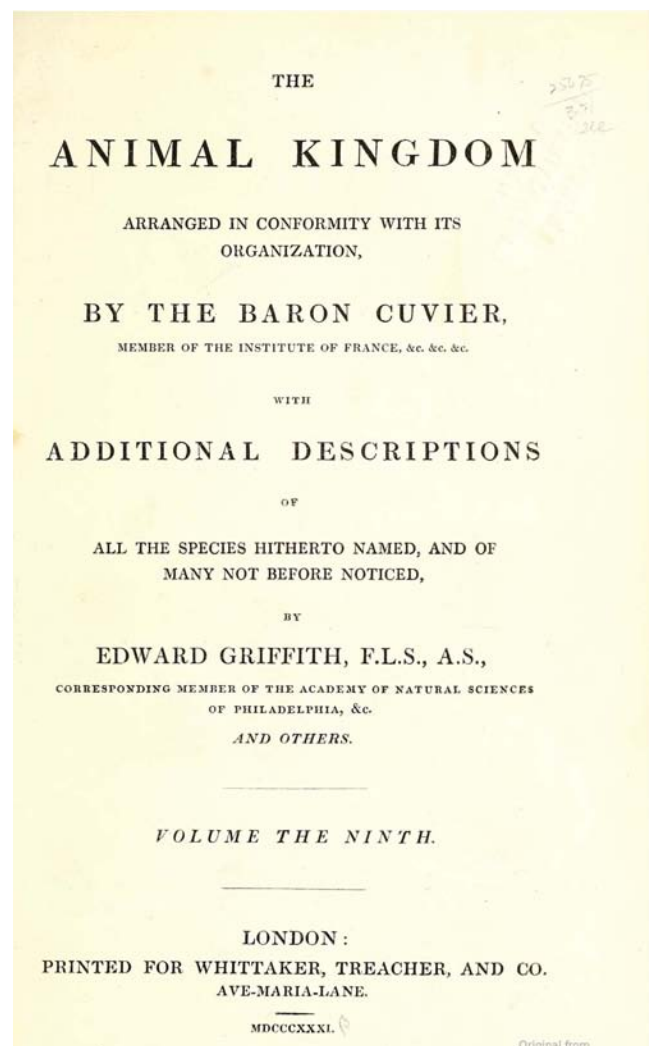


Figure 1. First title page of volume 9, Reptilia, of the *Animal Kingdom*.

pagination and plates associated with parts were not always consistent from part to part. Because there are new names in both the text and the plates, and because multiple works using some of the same names and plates were being published contemporaneously by other authors, dating of the text and plates of this work is critical to establishing priority.

Research was conducted in an attempt to find the earliest dates of notices of publication for as many of the 44 parts as possible. Using external evidence, notices of publication were found for 43 of the 44 parts. The remaining part (Part 26 of the Reptilia volume), for which no evidence has yet been found, is given an interpolated date. Additionally, an attempt was made to establish the pages of text issued in each part, either based on wrapper contents when found, through external sources that gave contents of parts in reviews, or through examination of collation and signature marks. Results of this research are presented below.

Methods

Sources Used for Dating

The following are the various sources used during this study including periodicals, online resources, bibliographies, reviews, and previous bibliographic research articles dealing with the subject. Some volumes of periodicals and newspapers were unavailable for examination, so the results of notices in this study are not exhaustive, but instead reflect the resources available. I follow the format of Evenhuis (1997) and Bousquet (2016) in listing as many sources as possible that gave dating information for each part. Some notices may say that a part will be forthcoming on a certain date. These are not included as a primary dating source but are included and annotated as stating such when a date has been confirmed from other notices or for informational purposes to indicate delays in intended versus actual issuance of an individual part.

Periodicals and Recording Journals. Periodicals, primarily deriving from Great Britain and Ireland, were examined for notices of publication, forthcoming publication of issues, or for reviews and notices that contained information

on pagination and/or contents. Periodicals outside of Britain and Ireland were also examined but rarely gave accurate or timely dates of publication. For example, Férussac's *Bulletin des Sciences* (and later *Bulletin Zoologique*) presented three reviews (listed below) that mentioned contents but otherwise did not give publication dates earlier than those found in journals published much closer geographically to where the work itself was published.

The publisher Whittaker had his own periodical, his *Monthly Magazine* (sometimes referred to in the literature as *Whittaker's Monthly Magazine* to disambiguate it from other similarly titled periodicals), which gave notice of new publications. It was originally thought when discovering its existence that it would be a treasure trove of information on the dating and publication of this work. However, this proved not to be true. For one, the publication was monthly, so advertisements placed in weekly or other more frequently issued periodicals and newspapers would often pre-date notices in the *Monthly Magazine*. Additionally, for unknown reasons, there were many issues in months during which parts of the *Animal Kingdom* were known to have been issued but in which notices were not made by the publisher. Whittaker's large number of new titles could have been one reason (i.e., that the parts being issued were "just another title"), or subscriber-ship might have been stable enough for incoming revenue that no advertising was always needed to entice new subscribers.

The following are the periodicals examined during this study for notices of the *Animal Kingdom* and their respective abbreviations referred to in the text: *Annals of Philosophy* (*An. Philos.*); *Athenaeum*; *Bent's Monthly Literary Advertiser* (*Bent's Mon. Lit. Advert.*); *British Critic and Quarterly Theological Review* (*Brit. Crit.*); *Dublin Literary Gazette* (*Dubl. Lit. Gaz.*); *Edinburgh Literary Journal* (*Edinb. Lit. J.*); *Edinburgh Review* (*Edinb. Rev.*); *Englishman's Magazine Advertiser* (*Engl. Mag. Advert.*); *Gentleman's Magazine* (*Gent. Mag.*); *Journal Général de la Littérature Étrangère* (*J. Gen. Litt.*); *Kaleidoscope*; *Literary Chronicle* (*Lit. Chron.*); *Literary Gazette and Journal* (*Lit. Gaz. & J.*); *London Literary Gazette and Journal of Belles Lettres, Arts, Sci-*

ences, &c. (Lond. Lit. Gaz.); London Magazine (Lond. Mag.); Magazine of Natural History (Mag. Nat. Hist.); Monthly Critical Gazette (Mon. Crit. Gaz.); ["Whittaker's"] Monthly Magazine (Mon. Mag.); Monthly Review (Mon. Rev.); New Monthly Magazine (New Mon. Mag.); Oxford Literary Gazette (Oxford Lit. Gaz.); Quarterly Literature Advertiser (Quart. Lit. Advert.); Quarterly Review (Quart. Rev.); Somerset House Gazette (Somerset House Gaz.); The Examiner (Examiner); The Metropolitan; Magazine (Metropolitan); The Scot's Magazine (Scot's Mag.); The Spectator (Spectator); Universal Review, or Chronical of the Literature of all Nations (Univ. Rev.); Westminster Review (Westm. Rev.).

Online search of notices for the work was conducted on each periodical listed above. When a notice was found in a particular periodical, as much of the series of that periodical available online was searched for other notices of the *Animal Kingdom*. This methodology was used for all the periodicals listed above.

Newspapers. Newspapers were an important part of the publishing process as they reached many potential buyers, and advertising books being sold would reach an audience otherwise missed through targeted notices in recording journals. Ferdinand (2009: 445) noted that Whittaker in 1830 had provided testimony to the Commissioners of Inquiry into the Management of the Post Office, acknowledging that "there are many persons who would like to buy the books whom we know nothing of, and, consequently could not send our lists to, who would see them in the newspapers". Indeed, newspapers of the 1820s and 1830s were replete with notices of publication and publisher's advertisements, sometimes taking up more room on a page than the day's news. Examination, then, of newspapers, was conducted in this study in order to check for any notices by Whittaker of the issuance of parts of the *Animal Kingdom*.

Access to online newspaper archives that have newspapers of the British Isles (newspaperarchives.com; newspapers.com) allowed searches for and examination of scanned copies of newspapers that had publishers' advertisements, notices of publication, or reviews of parts and volumes. Since the frequency of news-

paper publishing was usually much greater than that of many journals (e.g., chiefly on a daily basis as opposed to weekly or monthly for journals), a majority of the earliest publication dates found in this study derive from these sources. The following newspapers were examined during this study (abbreviated forms of titles used in parentheses): *The Atlas* (Atlas); *The Courier* (Courier); *Kent & Essex Mercury* (Kent & Essex Merc.); *London Age* (Lond. Age); *London Chronicle* (Lond. Chron.); *London Guardian and Public Ledger* (Lond. Guard.); *London Herald* (Lond. Herald); *London Morning Post* (Lond. Morn. Post); *London Observer* (Lond. Observ.); *London St. James Chronicle and General Evening Post* (Lond. St. James Chron.); *London Standard* (Lond. Stand.); *London Star* (Lond. Star); *London Weekly Times* (Lond. Weekly Times); *Morning Chronicle* (Morn. Chron.); *Morning Journal* (Morn. J.); *New Times* (New Times); *Sunday Herald* (Sun. Herald); *Times London* (Times).

Online. The following online resources used during this study include bibliographic archives, digitized works held in libraries, search services, and online dating resources. Holdings for volumes examined are listed after each volume below: Google Books (GB [source library if known is given]); Biodiversity Heritage Library (BHL [source library is given]); Bodleian Library, Oxford University (Bodleian); Coan & Kabat — 2,400 years of malacology (Coan & Kabat).

Bibliographies. The following bibliographies were consulted for information on dating, contents, pagination, and numbers of plates per part or per volume. Note that listing of the *Animal Kingdom* in a bibliography was sometimes entered under "Cuvier" because it was an English translation of Cuvier's *Le Règne Animal*: Anker (1938); Bohn (1864); Bousquet (2016); Daniels (2004); Engelmann (1846); Evenhuis (1997); Freeman (1980); Graesse (1861); Matthews (1925); Musgrave (1932); Pittie (2010); Sherborn (1922); Smith (1993); Whittell (1954); Zimmer (1926).

Reviews. The following are contemporary reviews giving information on contents of parts or details on plates: Anonymous (1824a, 1824b,

1825, 1826, 1828, 1829, 1830, 1831, 1832, 1833); Férussac (1831, 1836), Férussac & Dejean (1825); Westwood (1835).

Articles. Bibliographic research articles dealing with the dating of parts of the *Animal Kingdom* are few and some merely repeat the previous work of others. The following were consulted that had information helpful to the overall dating and/or production of the work: Cowan (1969a,b, 1971a, 1971b); Evenhuis (1997); Dickinson *et al.* (2011); McDunnough (1918); Matthews (1919, 1920); Petit & Coan (2006).

Sources for Contents and Pagination

As many physical and digitized (scanned copies) were examined as possible to determine contents and pagination; and also determine method of issuance and any variations in printings and publishing process. Only three physical copies of the complete work have been seen by me: USNM, BMNH and OXUMNH (for a list of abbreviations, see below). I personally have a copy of the two-volume Insecta portion that was bound sometime around 1872 (based on advertisements of books in the waste paper used in binding). The remainder of copies seen are the various copies available online, and sets that have been examined by others upon request in libraries otherwise inaccessible to me.

Terminology Used

Throughout this paper, a number of printing and bibliographic terms are used to describe the work and its production. I follow McKerrow (1928) and Gaskell (1972) in use of bibliographic terms and have referred to the more contemporary (to the work being studied) *American Dictionary of Printing and Bookmaking* (Anonymous 1894) to put into context the terminology used by publishers and booksellers of the 1820s and 1830s when describing the work. Some incorrect terminology in Evenhuis (1997) and Dickinson *et al.* (2011) is corrected and modified here. See the Appendix for a glossary of terms used in this paper.

General Abbreviations Used in the Text and Tables

The following general abbreviations (excluding those for media used as sources for dating men-

tioned above) are used throughout this paper: BMNH = the Natural History Museum, London; OXUMNH = Oxford University Museum of Natural History; USNM = United States National Museum of Natural History; 8vo = octavo; in. = inches; pl(s). = plate(s); p(p). = page(s); Roy. = Royal; Vol(s). = volume(s); UI = University of Illinois, Urbana-Champaign.

Background to the Work

There is sparse evidence of how or exactly when this project was conceived or how it progressed throughout its 11-year publishing history. Cuvier's (1816) four-volume *Le Règne Animal* was an epic work that proved to be the new standard for classification of all animals. It was so highly acclaimed, that a second edition was published (Cuvier 1829–1830). One problem with both editions, however, was that they contained few illustrations. Félix Edouard Guérin (after 1835 as Guérin-Ménéville) recognized the need for illustrations to depict the animals discussed by Cuvier and began his *Iconographie du Règne Animal* (Guérin-Ménéville 1829–1844), which was intended to complement Cuvier's work, by depicting at least one species of every genus mentioned by Cuvier. Independently and concurrently, biologist Edward Griffith (1790–1858) realized the need for illustrations as well as an English translation of Cuvier's work, and coordinated authors, translations, and artists and engravers for plates for his *Animal Kingdom*. George Bryon Whittaker (1793–1847) was contracted to publish the work. The work would be a faithful English translation of Cuvier's *Le Règne Animal*, but also include original information and descriptions of new taxa of animals by the authors and invited specialists. In this fashion, they would advertise that the *Animal Kingdom* as a “complete book of reference” ... “equally attractive to the scientific and general reader”.

The Publisher

George B. Whittaker, son of the Rev. George Whittaker, had entered the publishing business in 1814, interning with Charles Law at his 13 Ave Maria Lane business as Law & Whittaker. Within a short time, Whittaker obtained the

business when Law left and (in 1820) the firm was known as “Whittaker’s”. Whittaker’s brother, William Budd Whittaker, joined in 1823, changing the business name to “G. & W.B. Whittaker”¹, but keeping the location at Ave Maria Lane, which was in the same building² as the Stationer’s Worshipful Company where all published literature in England was legally deposited to protect copyright. Within a decade, Whittaker had risen to become one of London’s leading publishers, second only to Longman’s and Co. in number of titles published per year. His prominence in business even led to his being made sheriff of London and Middlesex in 1823.

George Whittaker had made wise investments obtaining copyrights of languishing books and turning sales around, thus accumulating substantial revenue allowing him to re-invest in the publication of various other works. One of these “other works” was the English translation of Cuvier’s *Le Règne Animal*. Just the engraving of the extensive number of colored plates required for the work would be costly enough. Topham (2004), gleaned much information from the obituary of Whittaker in the *Gentleman’s Magazine*, indicated that Whittaker had laid out upwards of £7000 just for that.

Whittaker’s publishing business, although producing a high volume of titles, was not without its financial difficulties. In 1825, an American bookseller defrauded Whittaker by forging his name on bills that amounted to a debt of £270,000. The amount of the fraud and the discovery by his creditors of a failed investment in hops forced Whittaker to put the business

¹ Some Mammalia plates have printed at the bottom “Published by G. & W.B. Whittaker” and dates in year 1824 although the plates were bound within volumes with title pages with “MDCCCXXVII” that had the publisher printed as “Geo. B. Whittaker”. The business name had changed between August 1824 (the latest published notice of a book for sale with “G. & W.B. Whittaker”) and September 1824 when notices in recording journals started to appear with “Geo. B. Whittaker”. Wrappers for the first three Mammalia parts have been seen in this study and all have “G. & W.B. Whittaker”. It is assumed (based on dating of the parts) that the change would be noticed in the wrapper to the fourth part.

² The National Archives (UK) has documents relating to the lease of 13, 14, and 15 Ave Maria Lane listing both Whittaker’s publishing firm and the Stationer’s Worshipful Company as occupying the premises.

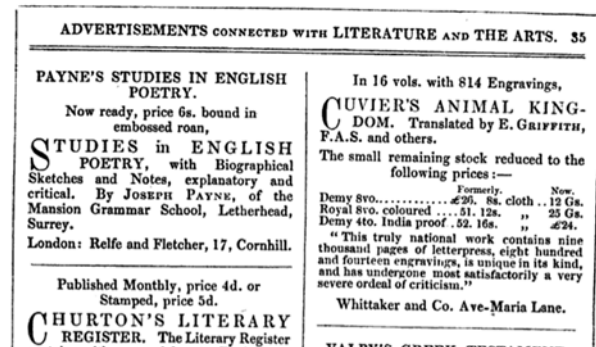


Figure 2. Publisher’s advertisement in 1845 (from the *Edinburgh Review*).

under a trusteeship. With the new temporary management and financial assistance from the printer Robert Gilbert³ eventually appeasing his creditors, by 1828 he was released from his creditors and continued his business in full force. It was also at this time (as can be seen below on the wrappers for the Aves parts), that Whittaker obtained partners to his publishing venture and the company changed its title to Whittaker, Treacher & Co. Amazingly, throughout this financial predicament, the production or timing of issuance of parts of the *Animal Kingdom* was unaffected. It is unknown how sales progressed throughout its printing, but in 1845 an advertisement by Whittaker to sell stock at discounted prices said “little remained” (Fig. 2). By 1864, booksellers were still selling copies, but saying it was “scarce”. Slater (1883: 27) was the earliest reference found in this study to explicitly indicate it was “out-of-print and scarce”.

As noted above, the publishing firm’s name changed twice: from “G. & W.B. Whittaker” to “Geo. B. Whittaker” in 1824. A third change, to “Whittaker, Treacher & Co.” in 1829, was when Whittaker brought well-known publisher Joseph Treacher, along with William Cumberland Hood and David Gale Arnot, into the business partnership.

At around the same time, the company introduced a new sales scheme to increase revenue and help sell some of the remaining stock. They initiated a cheaper monthly subscription in demy octavo and royal octavo and would “re-

³ Robert Gilbert, founder of the printing firm of Gilbert & Rivington married Whittaker’s only sister, Anne, which no doubt helped with a request for financial assistance to keep the business afloat (Topham 2004).

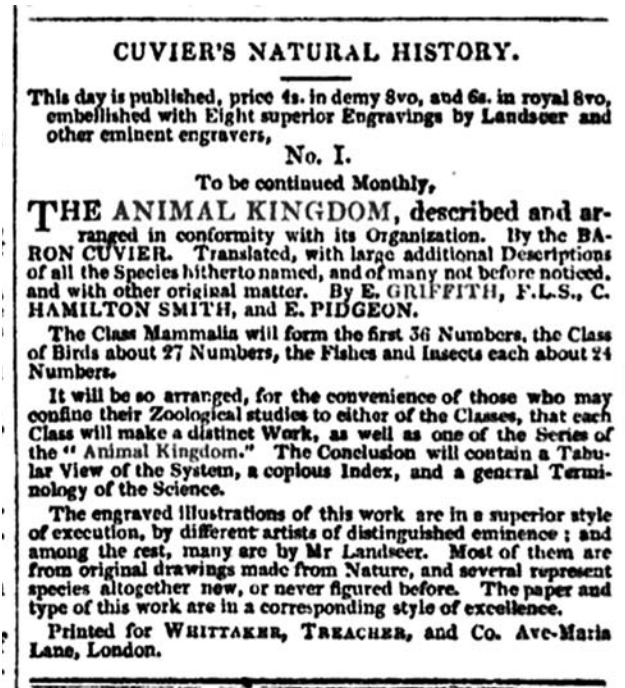


Figure 3. Publisher's advertisement in May 1829 announcing a new edition of the *Animal Kingdom* to be sold in monthly parts (from the *Edinburgh Literary Journal*).

publish" already published parts (at the time, this included only the Mammalia [the first 36 numbers] and Aves [27 numbers]; and advertising anticipated the inclusion of the other groups of animals yet to be completed or started). The first part appeared in May 1829 (Fig. 3). Whereas the original subscription plan had parts with 16 to 20 plates, the monthly subscription would have 6 or 8 plates. Advertisements for the monthly issues were found only from 1829 to 1830, and then they appear to cease, possibly due to lack of interest or the extremely long wait to complete a group (the Mammalia with 36 numbers and one per month would take two and one-half years). The reason for this new edition in monthly numbers (as opposed to quarterly for the original text and plates) could also have been because around that time separate English translations of Cuvier's *Le Règne Animal* were to appear, one by M'Murtrie, the other under the coordination of the publisher Henderson. Whittaker might have feared that this potential competitor might beat him to the completion of the entire series and also take away subscribers since the issuance of parts was much more frequent. It is not known what impact, if any, either edition had on the subscribers of Whittaker's *Animal Kingdom*.

Henderson's edition also came out in monthly parts and was eventually completed in four volumes in 1837 (see Evenhuis, 1997: 176–177 for more details).

Despite the possible lack of sales of the monthly subscriptions, the business seemed to thrive under this new partnership and continued to publish several new book titles per year. All was apparently going well until Joseph Treacher suddenly died of cholera in September 1833. The death was too quick for Whittaker to have planned for the possible loss of his partner. It was no doubt a severe blow to Whittaker; the loss of his partner was visibly evident in the sudden reduction of advertising (e.g., very few notices of new parts of the *Animal Kingdom* could be found from October 1833 until the spring of 1834). Treacher's son, Joseph Skipper Treacher, entered the partnership soon after his father's passing. The son (only 17 when his father died) was no doubt a partner only in keeping "Treacher" in the business name as there are titles keeping the "Whittaker, Treacher & Co." publishing name through 1837. Other titles in the mid 1830s have "Whittaker, Treacher & Arnot", so there must have been separate publishing agreements for this difference or possibly separate publishing divisions. In any case, the *Animal Kingdom* changed the publishing firm's title to "Whittaker & Co." on the title pages of volumes starting in March 1834, the change coincidental with the resurrection of more frequent publishing notices of the *Animal Kingdom*. The young Joseph S. Treacher did not remain in the business for long. Legal notices in the local papers told of the company's dissolving the partnership with Treacher on 1 November 1838⁴.

The Authors

On the authorship side of production of the work, Edward Griffith, a founding member of the Zoological Society of London, had envisioned complementing Cuvier's (1816) *Le Règne Animal* with an independent English synthesis on the subject and began a short-lived project in 1821 to that end. However, that first

⁴ The young Treacher later studied at Oxford, graduating in 1846 and was ordained the following year, eventually serving as Vicar of Stanford-on-Thames.

two volumes on the Carnivora (Griffith 1821a) and so-called Quadrumana (monkeys and apes) (Griffith 1821b) were said by some contemporaries to not have been professionally done, and had garnered little enthusiasm in sales. No further volumes were ever published.

Three years later, the translation project was resurrected with a working partnership of Edward Pidgeon (1790–1834), as co-author of some volumes; and specialty assistance (for some volumes) of Charles Hamilton Smith, John E. Gray, and George R. Gray. Edward Griffith and his wife Harriet, the latter an artist, were involved with the drawings of some of the animals on the plates. They can be identified by the notation “Griffith” or “Griffths” to distinguish them from the artist “M. Griffith” [= Moses Griffith] whose plates were used in the Mammalia volumes. Harriet Griffith was the engraver for the later volumes of the *General Zoology* by Shaw (1800–1812) and continued by Stephens (1814–1826) and, since many of the plates of vertebrates in that series were reused in the *Animal Kingdom*, Harriet Griffith may have played a significant part in arranging for the artwork used in this work.

The subject of Pidgeon’s contributions to the *Animal Kingdom* is a bit of a mystery. Gruber (2004) incorrectly indicated that, although Griffith was the overall editor and coordinator, Pidgeon was the main translator throughout the work⁵. In a 30 January 1835 letter to the editor of the *Times London* concerning the death of his friend, Griffiths (1835) explained the true contribution of Pidgeon to the *Animal Kingdom*. Some contemporaries had indicated in various reviews of the *Animal Kingdom* that Pidgeon was the translator of the work, but Griffiths

countered this, saying that he was not a translator, but only a proofreader and, although the sole author of the supplementary volume on fossils (vol. 11), he had no part in the writing of vols. 3, 4, and only a small bit of vol. 8. Although the workers associated with Griffith in this project were all labeled as “well-known”, outside of geology and paleontology, Pidgeon was actually not well-known at all. This lack of celebrity may have led to an unfortunate end. In his last few weeks of life, a letter to a friend of Pidgeon’s was published in the *Canterbury Magazine* (Anonymous, 1835) lamenting that he was forlorn and destitute saying he had no friends to speak to him and requested at least a book to read. One month later he took his life and left a note explaining that he “quitted this world” because of disease from incurable penury, and “penury hopeless, from the pressure of disease ... I die because I can live no longer. Who wants a better reason?”.

Gruber (2004) noted that translating Cuvier was made complicated when Cuvier’s second edition of *Le Règne Animal* appeared starting in 1829. Not only was this at around the same time as Whittaker’s financial problems, this translation change in scope was also in the middle of production of the Aves volumes. Despite Gruber’s (2004) assertion of a complication in the translation, there appears to have been no significant delays in production as the parts continued to be issued on a roughly quarterly basis. Whittaker had devised a split regarding where to start doing the translation of Cuvier’s second edition. Volumes 1–7 of the *Animal Kingdom* are a translation of the first edition of *Le Règne Animal* (Cuvier 1816); volumes 8–15 (except volume 11) are a translation of the second edition (Cuvier 1829–1830). An advertisement by Whittaker in 1825 for the latest part of the *Animal Kingdom* and the newly published *Researches on Fossil Osteology* (another Cuvier translation into English) indicated that Cuvier was in close contact with the publisher Whittaker and would keep him apprised of updates.

The Artists and Engravers

A number of artists and engravers were employed at various times during the publication of this work. Early advertisements touted the

⁵ Anonymous (1871) and Boase (1892), in their respective treatments of the passing of Richard Cuming (1777–1870), a founding member of the 1801 (third) Aurelian Society, biologist, paleontologist, collector, and founder of the Cuming Museum, stated that Cuming had translated the greater part of Cuvier’s *Règne Animal*, to which the name of Edward Pidgeon is attached. Griffith’s (1835) defense of his partner was rather equivocal, and noted that his true participation was a bit different from that implied by his name being printed as co-author on title pages. Given the debated circumstances surrounding Pidgeon’s death, more work on Pidgeon is needed to clarify his true association with Griffiths and the *Animal Kingdom*.

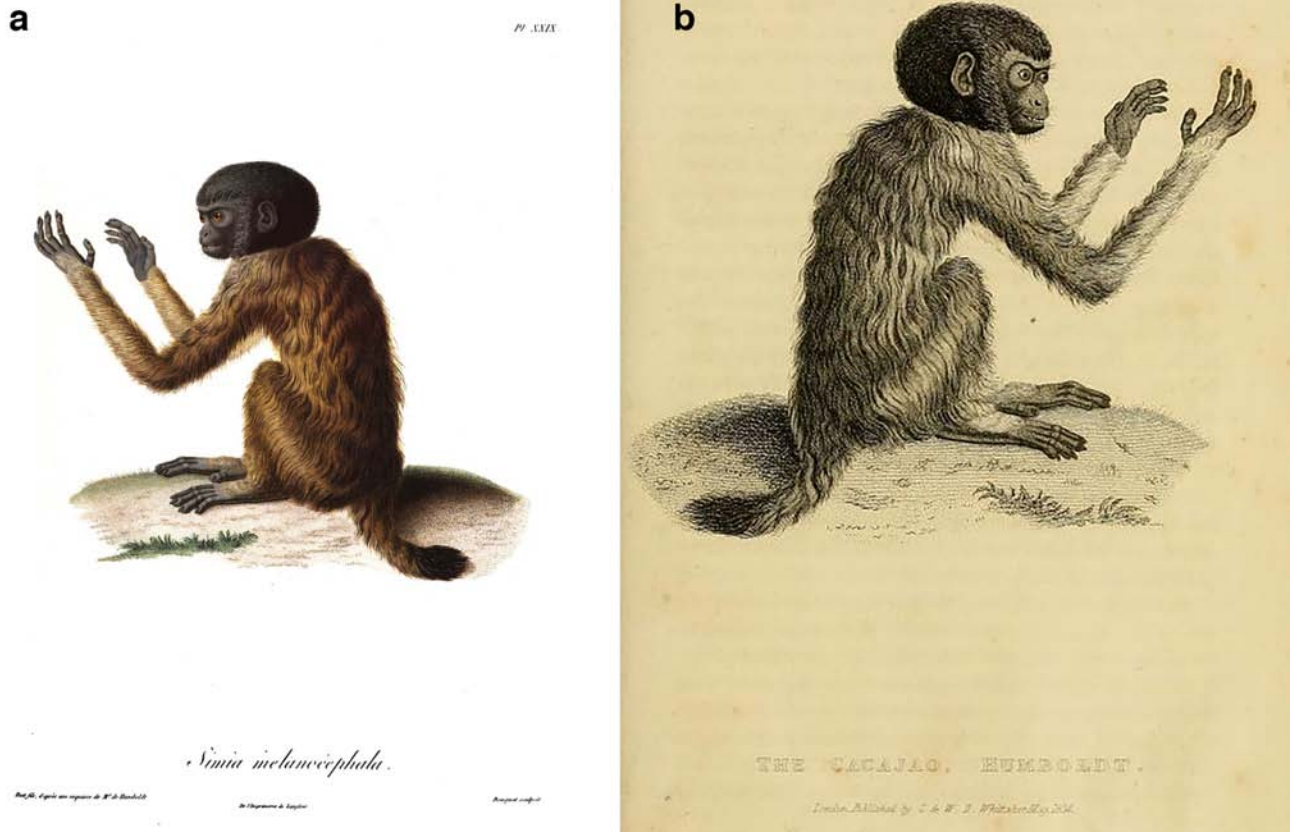


Figure 4. Plates depicting the “Cacajao” showing differences from the original deriving from a sketch made by Humboldt and published as pl. 29 in Humboldt & Bonpland (1811) (4a); and the lithograph copy made for Griffith’s *Animal Kingdom* (4b).

artistry of one of the co-authors, Charles Hamilton-Smith. Griffith and his wife Harriet were also involved with the illustrating, engraving, and hand-coloring of various plates. Additionally, use was made of previously published plates that were redrawn and lithographed. Advertisements for the *Animal Kingdom* state that some plates were drawn by Landseer (see below). Other plates, such as the one for *Simia melanocephala* Humboldt (labeled the “cacajao”), were originally sketched by Humboldt and published in 1811 in his *Relation du Voyage* (Humboldt & Bonpland, 1811) but were copied, lithographed, and hand-colored in England by contracted artists for the *Animal Kingdom* (see Figs. 4a and 4b for differences between Humboldt’s 1811 original and the 1824 copy in the *Animal Kingdom*).

James Basire engraved a number of plates, denoted by “Basire” or “Js. Basire”. There were three generations of Basires, all named James, so attribution to either of the three is difficult, if not impossible. The father (1730–1802) and son (1769–1822), if involved here, might have

been engravers of earlier plates, e.g., those originally done for Shaw’s *General Zoology*, which were re-used here. The grandson (1796–1869)⁶ would most likely have been the engraver for plates not found elsewhere and that thus were originals made for the *Animal Kingdom*.

Charles Morgan Curtis (1796–1839), younger brother of entomological author and illustrator John Curtis. Although like his brother, Charles M. Curtis was better known as an entomological illustrator (James F. Stephens employed him to illustrate his “*Illustrations of British Insects*”), but was the artist only for some of the bird plates used in the *Animal Kingdom*.

Moses Griffith (1749–1819) engraved some of the plates (denoted by “M. Griffith”). Since the plates were printed after Moses Griffith died, he obviously had done the engravings much earlier. Indeed, some of the plates used by Edward Grif-

⁶ Work must not have been all that good for the youngest James Basire after doing engravings for the *Animal Kingdom*. He was in bankruptcy court in 1847 (Anonymous, 1847), and debtor’s prison in 1851 (Anonymous, 1851: 33).

fith for the *Animal Kingdom* were taken from various other published works, including Shaw's (1800–1826) *General Zoology*, for which Moses Griffith had engraved many of the same plates re-used in this work.

Charles Hamilton Smith (1776–1859) illustrated a number of the vertebrate plates throughout the production of the *Animal Kingdom*. He is denoted on the plates in a variety of ways including “H. Smith.” and C.H. Smith”. Although he provided a few plates dated 1824, the majority of his work seems to have been from 1825 to 1829. Smith was also co-author of the Mammalia and Pisces volumes and authored a number of new taxa.

Samuel Howitt (1757–1822), primarily a field sport enthusiast and painter of such endeavors, was also well known for his work with animals. Many were sketched from life, from specimens in menageries, but also some studies were made from stuffed animals. Although he is well known for his drawings of mammals associated with Aesop's Fables, his name is associated with plates in the *Animal Kingdom* depicting birds.

Landseers. There were two artists (father and son) with the surname Landseer. A review by Anonymous (1825) of the first few volumes of the *Animal Kingdom* stated that “the Landseers” had illustrated some of the plates in vols. I–III. The father, John Landseer (1769–1852), illustrated some plates and is denoted by “Jo. Landseer”. Edward [Sir Edwin] Henry Landseer (1802–1873) was well-known as an animal painter and the illustrations he drew and etched for the *Animal Kingdom* are denoted by “H^y Landseer”, “H. Landseer” or “H.L.”. The illustrations by the latter are easy to spot among those in the *Animal Kingdom* as his style has a characteristic relaxed sketch-type look and (if present) the signature is large and flowing.

John William Lewin (1770–1819), a naturalist and illustrator is denoted on plates in the *Animal Kingdom* simply as “Lewin”. Since he died before the project began, the plates used here were from originals made earlier and possibly used elsewhere. Australian-based since 1800, his illustrations used in the *Animal Kingdom* are restricted to those species occurring in New Zealand and Australia.

James de Carle Sowerby (1787–1871) illustrated the Hawaiian *Drepanis byronensis* and the Angola vulture, both from BMNH specimens. He probably also produced the original illustration of tortoises for the *Zool. J.*, which were re-used for the plate in the *Animal Kingdom*.

Joseph Obadiah Westwood (1805–1893), well-known Oxford entomologist and a talented illustrator in his own right, was primarily tasked with copying 52 of the Insecta plates in Volumes 14 and 15 supplied to him by Guérin from the latter's *Iconographie*. He also illustrated a number of plates himself.

John Christian Zeitter (1797–1862), a talented German-born animal artist from England and copperplate engraver was the engraver of some of the Aves plates in the *Animal Kingdom*. In 1831, Zeitter married Lydia Ann Aiken, daughter of well-known sports painter Henry Aiken.

Previous Dating Efforts

Dating of the parts to the work has proven difficult and most dates have been based on best estimates derived from reading the intent of the publisher and extrapolating and interpolating dates when not found in the literature. Matthews (1919: 454) apparently had little to go on except the dates of the plates and stated with regard to the Aves volumes, in which he was only interested: “The title pages bear the date 1829, but the plates are dated, the dates ranging from Nov. 1827 to Jan. 1830. A few new names occur, so that a collation would be valuable.” Then, the next year, Matthews received some additional information (source not specified therein)⁷ and augmented his previous entry for Griffith stating: “About nine parts bound in three volumes which are listed on January 23rd, 1830. Pt. 14 (1st of birds) December 1st, 1827; pt. 15, March 31st, 1828; pt. 16, August 6th, 1828, with 18 plates; pt. 19, May 21st, 1829; pt. 20 with 16 plates, August 15th, 1829; pt. 21, with 21 plates, October 31st, 1829. Further dates and contents of parts still desired.” The information Matthews supplied is the most detailed at that time, but it is still incomplete and with one possible error (Part 16 with 18 plates

⁷ The source is discovered only by reading Zimmer (1926); it was Charles Richmond.

Table 1. Comparison of plate numbers for parts of and whole series of the *Animal Kingdom*.

Work	Mammalia	Aves	Reptilia	Pisces	Annelida etc.	Mollusca	Insecta	Fossils	total
Nissen 1966	210	160	55	62 + [2]	60	60	140 + 1	49	799
Engelmann 1846				60	60		140		
Evenhuis 1997							140		
Graesse 1861	200			60	60	64**	140		
Whittaker 1837	200	180	60	60	60	64**	140	50†	814
"List of Plates"	210	160	55	62+[2]	60	60	140	49	798
Zimmer 1926		260*							
Smith 1993	210	160	55	64	60	61	140	49	799
wrapper contents		159		67**					
Anker 1938		160							

* typo for
160

** includes
replacements
for 3 plates

** includes
replacements
for 3 plates

†includes
extra pl.
meant for
1844 2nd ed.

fits better with Part 17 having 18 plates — see Table 3 for comparison of contents and dates).

Sherborn (1922: xli) gave only brief attention to dating of the entire work as he had little evidence of dates for the 44 parts nor did he have knowledge of how many parts made up the entire series since he had apparently not seen any parts with wrappers and based his dating on reports of publisher's notices in the literature. He stated: "said to be a quarterly; pt. 1 issued Feb. 1824 and pt. 25 out by 1830; advisable to use volume dates at present."

Zimmer (1926) noted that Charles Richmond was a source for some of Matthews's (1920, 1925) dating and repeated the details of parts and plates with a bit more detail. Anker (1938), like Mathews and Zimmer, was also concerned only with the Aves and gave a detailed description of its three volumes but, apparently, did not see Matthews (1920, 1925) or Zimmer (1926) and stated:

"The whole work was issued in parts in 1827–35. ... According to the dates of publication given on them [the plates], they were published from November 1, 1827, to January, 1830, and the three volumes cited here would seem to have been completed at the end of 1829 or possibly at the beginning of 1830." (Anker, 1938: 115).

Cowan (1969a) gave the most detailed research on the work but, without much external evidence to go on, made preliminary calculations on dates and contents with the caveat that they could be used as a basis for further work. Cowan's work presented a wealth of information that indeed proved useful as a baseline of

publication dates for the current study. To show the relative accuracy of Cowan's estimates on dating, Table 3 compares dates found in the current study with his dates. Subsequent findings (Cowan 1969b, 1971a, 1971b) corrected some estimates but some incorrect assumptions (e.g., 3 parts per insect volume) remained.

Evenhuis (1997) provided dates of the two Insecta volumes based on Cowan's research, correcting the parts per volume, and estimated pages per part based mainly on a 192-pages-per-part assumption.

Note on Issuance of Plates

Plates were normally issued in the parts with the relevant associated text. Plates were not numbered until 1831, starting with the plates in the Insecta volumes (14 and 15), followed chronologically by those in the Annelida, Crustacea, Arachnida (vol. 13), the Mollusca and Radiata (vol. 12), and the Pisces (vol. 10) volumes. Despite knowing the numbers of plates in volumes and in some parts (via listing totals in advertisements and reviews), accurate dating of those plates has been found in this study not to be always possible, primarily because the contents of the plates in the original parts with wrappers do not correspond to their final placement in bound volumes. In addition to the initial publication of parts on the intended quarterly basis, republished parts were also issued as part of a monthly subscribership scheme (cf. Fig. 3); however, these parts had a separate numbering scheme and apparently were only published for less than two years (May 1829 through 1830,

possibly into early 1831), so there should be no confusion regarding dating of plates that are found in the original quarterly issued wrappers.

Other confounding circumstances concern the actual number of plates that were issued versus the ones that were instructed to be bound in the final volumes. Total plate counts in the final bound 16 volumes seems to vary from set to set with Nissen (1966) and Smith (1993) stating 799; the publisher stating 814 in an 1837 advertisement (Whittaker, 1837), but the bookseller Junk (*Antiquariaat Junk*, 1998) stating that the set they were selling in that catalogue (with 797 plates) included the most in any set they had ever sold (cf. Table 1).

One reason for the varying totals could be that the number of plates issued for a particular part may not have been the same from one part sold to another. Unfortunately, the contents of the parts of the Mammalia and Aves seen during this study are known only from one set of wrappers each. It would be critical to compare the same part to other sets with wrappers to understand better if the number of plates and contents of each varied from one to another. The numbers of plates per part appeared most often in Whittaker's advertisements of the early parts, but disappeared toward the last couple of years and were also not present in advertisements that also included newer works the publisher was trying to sell in the same advertisement. In those cases, the actual numbers of plates in the part being noticed as published would be replaced with phrases such as "numerous engravings" or "splendid engravings" or no mention at all of plates.

Another possible reason for this discrepancy is evident in the plates that were listed in the wrapper contents of part 1 (Mammalia), from the Bodleian Library. In that part, among the 18 unnumbered plates, there were seven (two of birds, two of fish, one of unnamed butterflies, one squid, and one tunicate) that were not mentioned in the text nor instructed to be bound in any of the remaining (i.e., non-Mammalia) volumes [the two bird plates were the only ones instructed in the Aves "List of Plates" to be bound in the Aves volumes]. It could have been that in the first part, the publisher (Whittaker) wanted to attract as many potential sub-

scribers as possible by inserting a variety of animals groups rather than restrict the plates to just Mammalia. Parts 2 and 3 contained only Mammalia plates, and all the Aves parts seen in wrappers had only Aves plates. It is uncertain if other parts in original wrappers contained additional plates (i.e., of taxa belonging to other Classes than that of the part) that were not associated with any textual matter; however, one plate was not found among those issued with the Aves parts in wrappers (which totals 159 plates) and must have been included in another non-Aves part since 160 plates are in the "List of Plates" in the preliminaries of the Aves section. Also, of the plates I have examined in the Insecta section, one plate (pl. 139) was unaccounted for and could have been one of these extra originally unnumbered plates only issued for marketability and not intended to be bound.

In the case of plates not known from wrapper contents, they can effectively only be dated from the earliest known date of the last part of each animal group. Thus, for example, in the Mammalia volumes, plates may have originally been issued in an early part but were bound into a later volume; or vice versa: a plate may have been issued in a later part but bound into an earlier volume. If they are not known from the part in which they were originally issued, but only from the bound volumes, one can safely only date such plates from the last part that was issued for that animal group. Also, plates from two-volume Classes can be placed among the parts that comprised the second volume if the dates on the plates are later than the date of publication for the last part in the first volume (e.g., as was done for the Insecta plates dated 1832 in this study).

I list the plates of the parts I have seen or for which I have received information as they occur in each part, but, without supporting evidence (correspondence, library stamps, etc.), cannot at this time verify with certainty whether they represent an original issuance of the part or a subsequent one.

Additionally, not-before dates can be determined for plates based on the dates they were completed. Virtually all of the plates are dated with a year and for Insecta also a month (and sometimes also a day) and it is possible that the

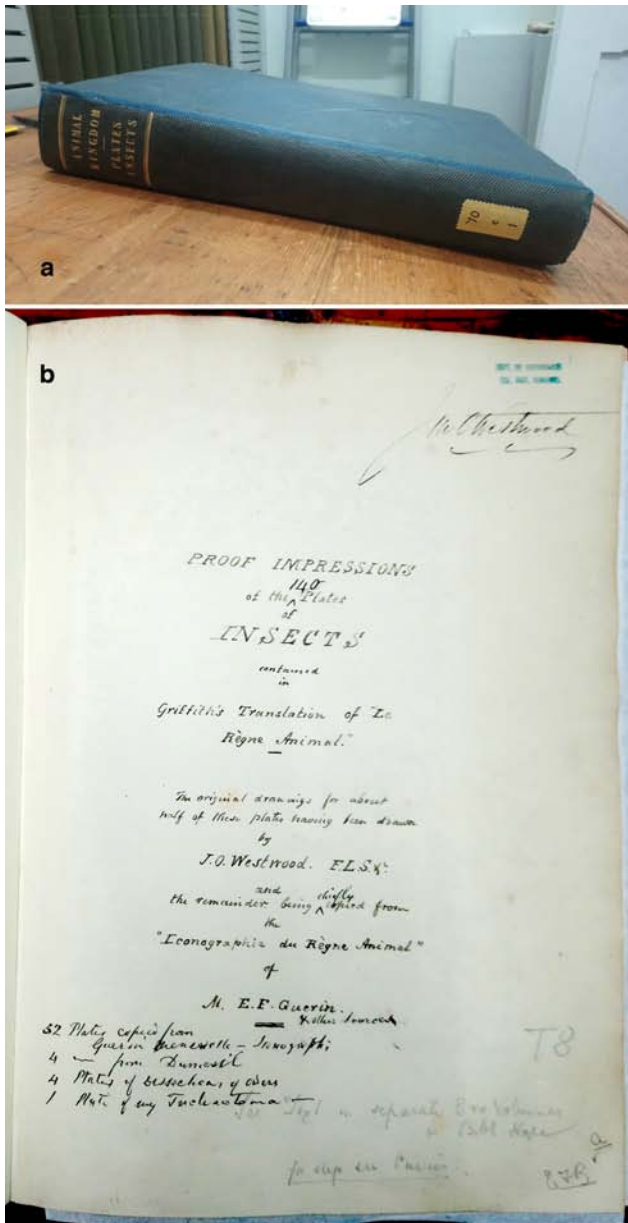


Figure 5. Set of proof impressions of 140 Animal Kingdom Insecta plates belonging to J.O. Westwood deposited in OXUMNH . a. bound volume; b. Handwritten volume title, with supplemental information added by an unidentified person. Photos: Zoë Simmons, OXUMNH .

dates are associated with dates upon which a plate could be sold. Since it was advertised that there were available for sale proof plates in demy quarto on India paper, it is possible that the dates on the plates were the dates on which the proof plates were pulled and sold separately from and before the plates sent to subscribers along with the text in the parts with wrappers. Advertisements from the publisher stated this could be done and the India paper proofs were sold at a much higher price than the other versions sold. Although a set of 140 proof impres-

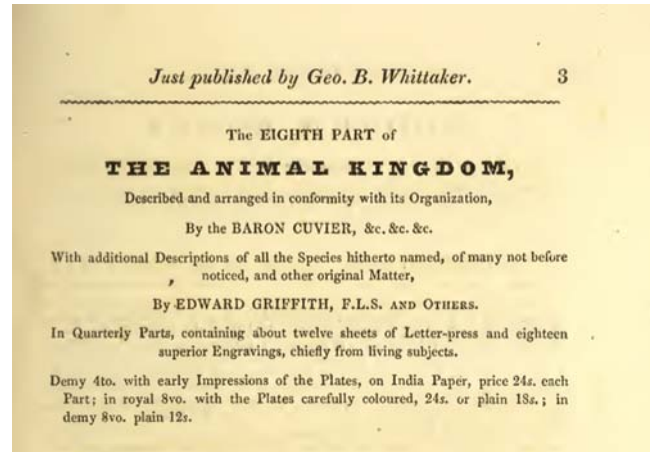


Figure 6. Advertisement of the eighth part of the *Animal Kingdom* showing its intended issuance of 12 sheets of letter-press with each part. Source: Publisher's advertising pamphlet bound in "A topographical dictionary of the United Kingdom. 1826" via Internet Archive.

sions of Insecta plates from the *Animal Kingdom* belonging to J.O. Westwood were found in the OXUMNH (see Figs. 5a,b), no evidence was found of a date of sale or receipt of any of those

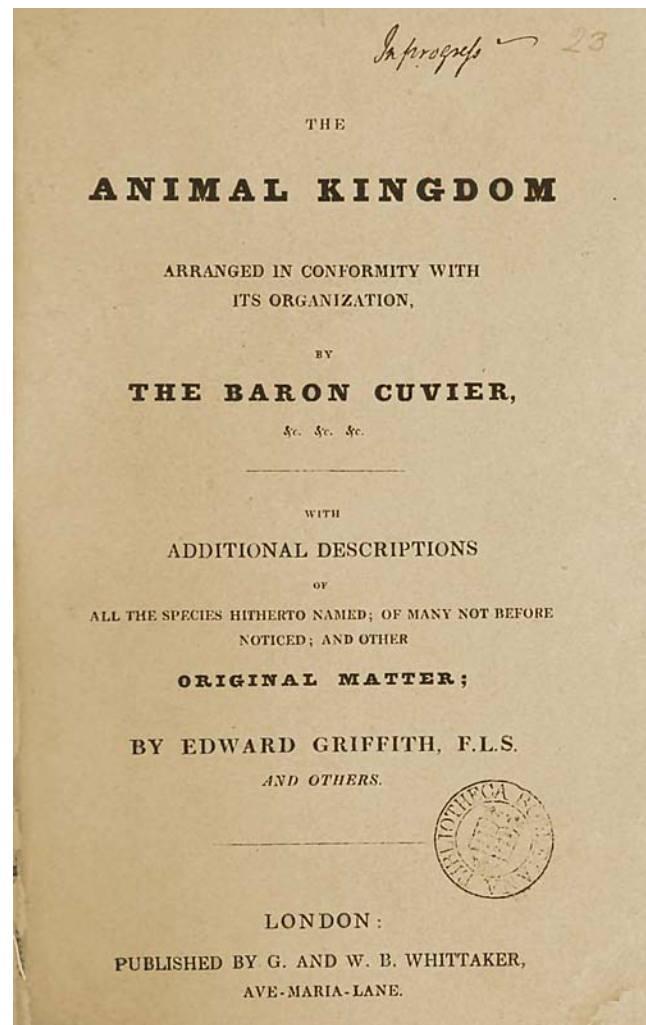


Figure 7. Example of an early wrapper of part of the *Animal Kingdom*: wrapper cover of Part 1.

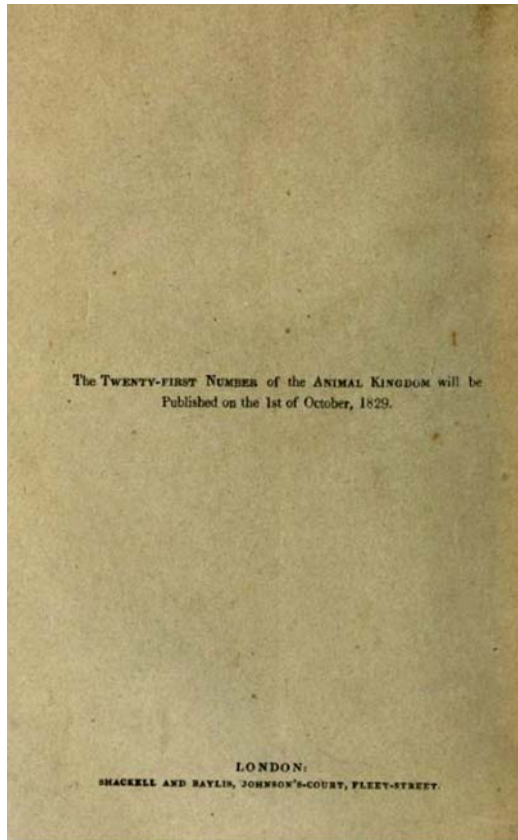


Figure 8. Example of the back of cover of the wrappers to the *Animal Kingdom* showing the anticipated date of the next part: wrapper back cover of Part 20.

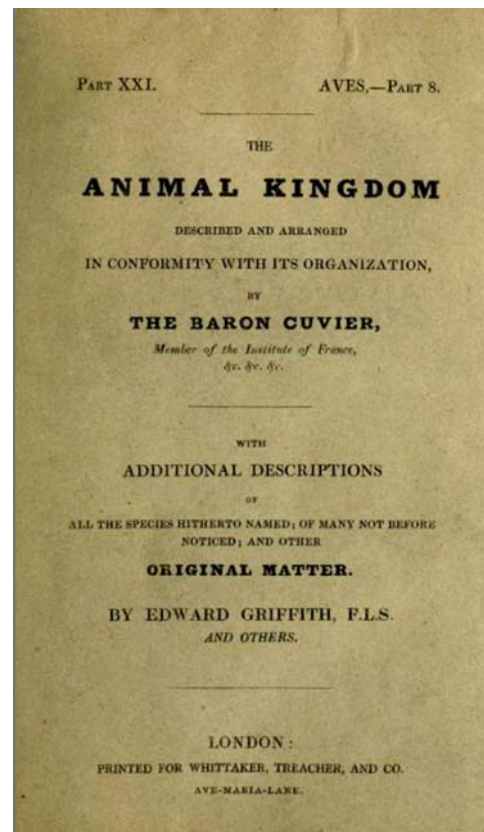


Figure 10. Wrapper cover of Part 21 of Aves (Vol.8) showing labeling of animal group, overall series part number , and part within the group.

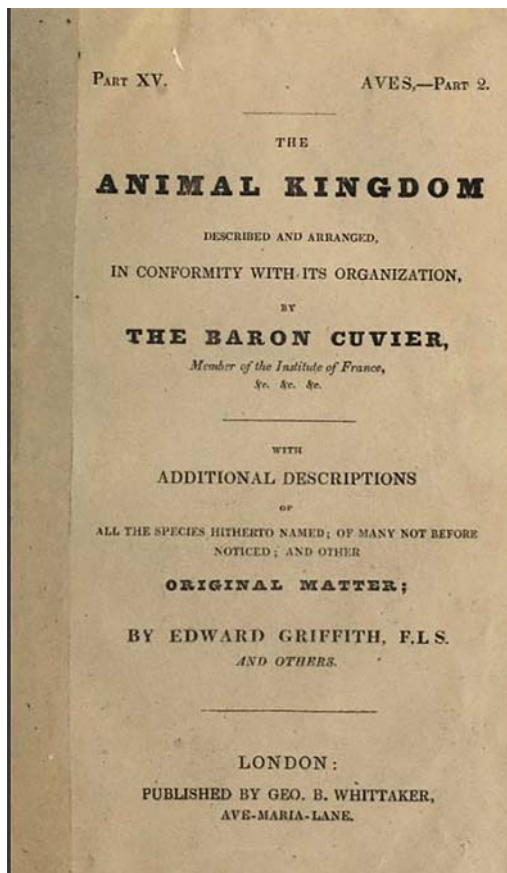


Figure 9. Wrapper of Part 15 showing start of labeling of animal group, overall series part number , and part within the group on the wrapper covers.

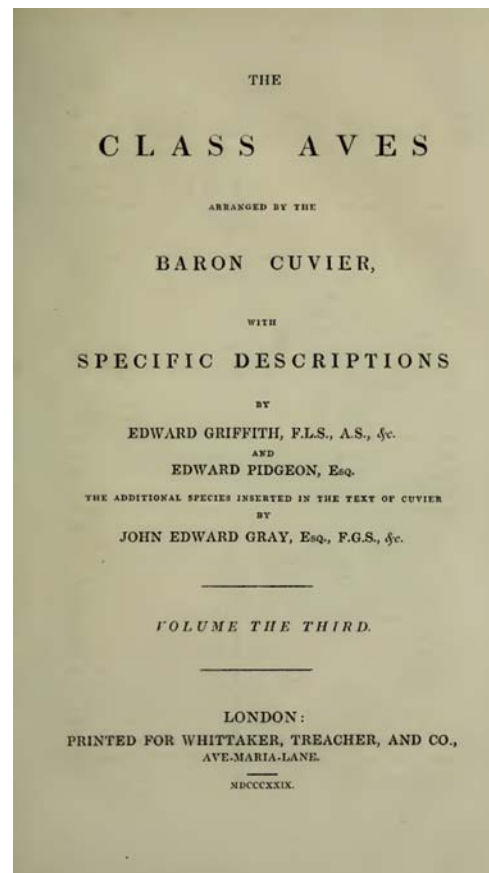


Figure 11. Second title page showing the labeling of the volume for Aves (Vol.3).

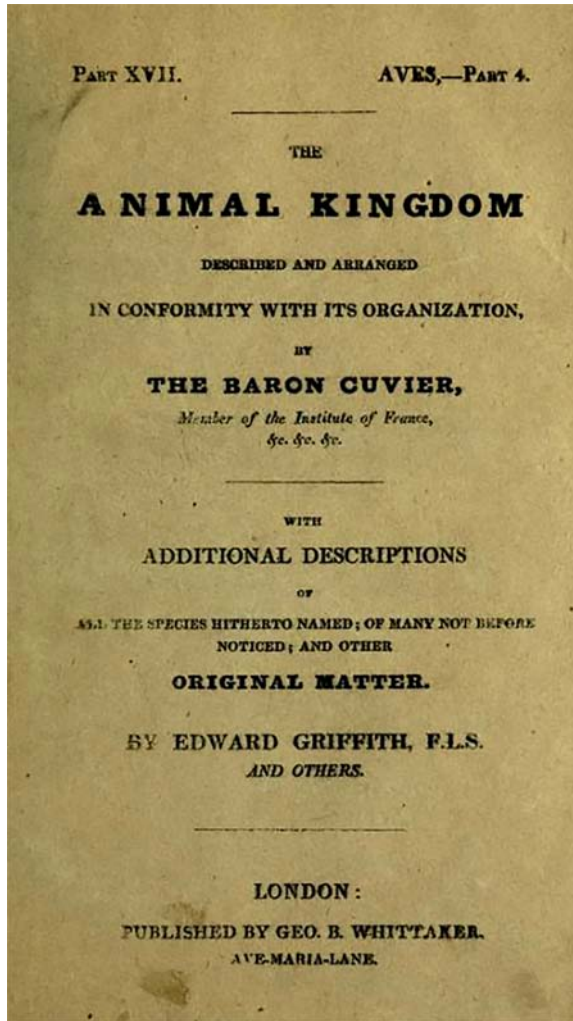


Figure 12. Wrapper cover for Part 17 (Aves Vol. 7) showing printer as “Geo. B. Whittaker”.

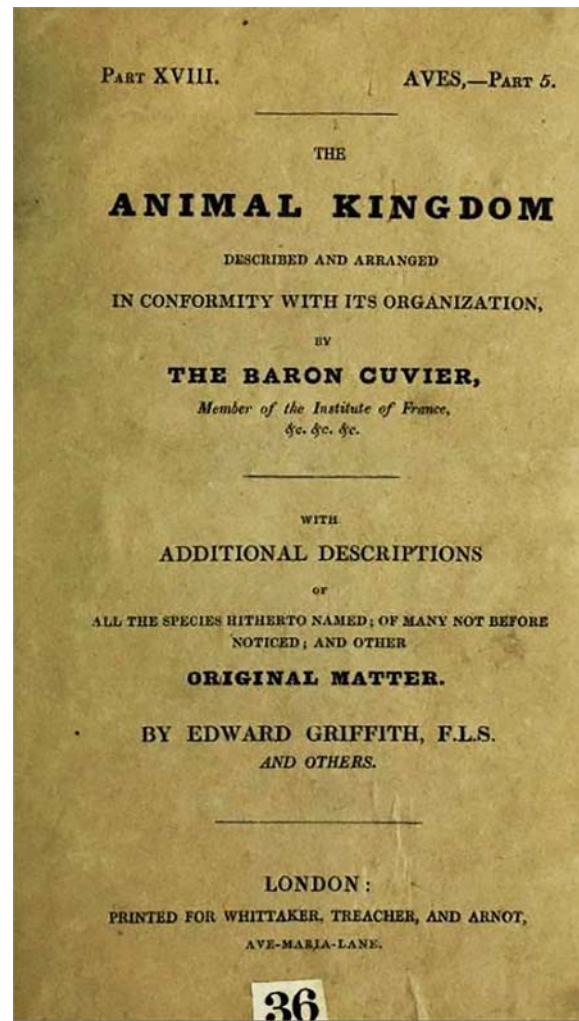


Figure 13. Wrapper cover for Part 18 (Aves Vol. 7) showing change in printer to “Whittaker, Treacher, and Co.”

plates. From the fact that the India paper proof plates were uncolored and expensive, it would seem that they may not have been as desired as hand-colored plates, even though the uncolored versions could be purchased as soon as they were ready and without having to wait for them to be issued along with the text in a Part.

Notes on Pagination and Contents

Determining the pages contained in each part without reference to originally gathered contents in a wrapper (see below for examples) can be both difficult and time consuming. Obvious discoloration from one part to the other or different margins or type can give some indication of a set of signatures that make up individual parts but is fraught with uncertainty. Text gatherings (“sheets”) consisted typically of a signature of 16 pages. One publisher’s advertisement (Fig. 6) stated that each part consisted of 12 sheets of letterpress. With each “sheet” being 16

pages, there were then 192 pages of letterpress that were advertised to be in each part. Cowan (1969a) attempted to discern pages for all volumes with an assumption that the first part of most volumes had 192 pages. This assumption apparently stemmed from Mathews (1925), perhaps relying on information supplied to him by Richmond. Evenhuis (1997) followed this pagination assumption in an effort to discern the pagination of the parts in the two Insecta volumes. However, Cowan (1969a) had previously shown that the assumed 192-page count for the first part of each volume was not always correct. That was verified in this research based on the contents of parts of the Mammalia and Aves volumes that were bound as received in their wrappers (see further below). Aside from those anomalies, the 192 page-count for the first part of every volume subsequent to the Aves volumes seems to be correct.

Analysis of the Work

The work was offered in three editions: demy octavo, royal octavo, and demy quarto, although the printed plates to each were from the same copperplate, thus the same size but with different margins. Bousquet (2016) mistakenly said there were only two (quarto and demy octavo). The demy quarto was only for the proof impressions of the plates, which were printed on India paper and sold separately from the letterpress. The demy octavo edition contained letterpress and uncolored plates; the royal octavo edition had letterpress and could be purchased with either colored or uncolored plates.

Because the India paper proof impressions could be purchased separately from the “parts” that contained both text and plates, there is thus a potential that some plates may have appeared prior to the completed “part”. Without notices of receipt of those individual plates, dating of publication of those plates is not possible. No copies of individual demy quarto plates have been seen in this study. It is assumed here that their dates of issuance would be the same as the initial wrappers in which they were contained.

The issuance of the work was initially in parts in colored wrappers: the Mammalia and Aves wrappers seen were brown. Initially, the wrappers gave no information of the contents or Part number (see Fig. 7) giving only the overall title and publisher. By the time of the issuance of Aves Part 15, the wrappers had printed on them the animal group, overall series part number, and part within the group (e.g., Fig. 9). There were no dates printed on the wrappers; however, the back cover of the wrapper gave a date of when the next part would appear (e.g., Fig. 8). After receiving all parts that constituted a volume⁸, title pages would be used in place of the wrapper. Except for the Fossils (Vol. 11) and Synopsis and Index (Vol. 15), there were two title pages, both of which differed slightly in wording and format from each other and from that on the wrapper. For example, the wrappers gave not only the overall part number,

but also the part within the animal group. Thus, the wrapper for Part 21 for the Aves volumes (Fig. 10) has the following information printed across the top: the overall part number in Roman numerals (XXI), the animal group name (Aves), and the part number within the animal group in Arabic numbers (Part 8). In that fashion, and knowing that three parts made up a volume, a subscriber would know there was one more part (the 9th) needed to complete the third volume of the Aves. The first title page of each volume (e.g., Fig. 1) lacked the information on overall parts and parts within the animal group and was intended as the title page of this volume within the entire *Animal Kingdom* series (thus the “Eighth Volume” overall). The second title page (Fig. 11) was intended as the title page within the volumes dealing with the Aves (thus “Volume the Third”).

Bound Volumes, Separate Parts, and Dates of Publication

The descriptions of dating and contents below are by part within volume. As volumes were not issued chronologically, parts are not listed successively, but as they were issued within each volume. Table 3 can be consulted for the details on each part in successive order. Dates in bold are the earliest found.

Mammalia (overall vols. 1–5; overall parts 1–13).

Example first title page (from bound copy of volume 1): *“The animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with additional descriptions of all the species hitherto named, and of many not before noticed, by Edward Griffith, F.L.S., A.S., &c. and others. Volume the First. London: Printed for Geo. B. Whittaker, Ave-Maria-Lane. MDCCCXXVII.”*

Example second title page (from bound copy of volume 1): *“The Class Mammalia arranged by the Baron Cuvier, with specific descriptions by Edward Griffith, F.L.S., A.S. &c. Major Charles Hamilton Smith, F.R.S., L.S. &c. and Edward Pidgeon, Esq. Volume the First. London: Printed for Geo. B. Whittaker, Ave-Maria-Lane. MDCCCXXVII.”*

⁸ Most often this was three-parts per volume, but the first three parts of the Mammalia had text to go into other volumes and volume 5 of the Mammalia was made up of pages from two different parts. By the time the Aves parts appeared, the three-parts per volume rule was used fairly consistently.

Title page of Mammalia Volume 5: “*Synopsis of the species of the Mammalia, as arranged with reference to their organization, by Cuvier, and other naturalists. With specific characters, synonyma, &c. &c.* Volume the Fifth. London: Printed for Geo. B. Whittaker, Ave-Maria-Lane. MDCCCXXVII.”

Title page dates: **Vol. 1:** 1827, **Vol. 2:** 1827, **Vol. 3:** 1827, **Vol. 4:** 1827, **Vol. 5:** 1827.

Authorship: Edward Griffith and Edward Pidgeon are responsible for the translated portions. Sherborn in his *Index Animalium* gives authorship of most of the new species to John Edward Gray and Charles Hamilton Smith to others. British anatomist and naturalist Joshua Brookes (1761–1833) is given authorship of the genus *Lycaon* in the text (Vol. 5, page 151) and by Sherborn in his *Index Animalium*, although it is equivocal if, in fact, he was the person responsible for the characters given there to make the name available. The names may have been made available earlier in the sale catalogue of his museum (Brookes, 1827) since that latter work is cited in the *Animal Kingdom* under the name *Lycaon*.

Dating of the Parts

Part 1, pp. i–lxxx, 1–204, 18 plates, **13 February 1824** (*Morn. Chron.*, *Lond. Morn. Post*); 14 February 1824 (*Lit. Chron.*; says next part to be ready on 1 May 1824); 16 February 1824 (*Lond. Observ.*); 28 February 1824 (*Somerset House Gaz.*); February 1824 (Sherborn 1922: xli; *Mon. Mag.*); March 1824 (*Univ. Rev.*); 17 April 1824 (*Courier*); June 1824 (*Mon. Crit. Gaz.*).

Remarks. Wrappers and contents have been seen for the first three parts of the Mammalia (from a set in the Bodleian Library of Oxford University); pagination and plate contents of these parts are based on this set. The *Quarterly Review* listed Part 1 in its list of new publications for “October 1833 – January 1834”, but a January 1824 is impossible since there are at least 12 plates issued in Part 1 dated as “Feb^y 1824”. The *London Magazine* said the first part was “to commence on the 1st of February”. The 13 February date listed in the *Morning Chronicle* is treated here as the earliest

date of publication until more solid evidence can be found for an earlier launch. The date of the next issue to be published given by the *London Literature Gazette* is presumably from the wrapper back cover, which has such information printed on each part (see, e.g., Fig. 8). Whittaker’s own *Monthly Magazine* noted in the March issue that the first part was published in February (oddly without much fanfare). Cowan (1969a) did not give a source for his 29 February 1824 dating, but I presume this is following Sherborn’s (1922) “February” and Cowan simply adding the last day of the month for February that year, which was the 29th.

Part 2, pp. 205–352, 18 plates [of Vol. 1], pp. 1–52 [of Vol. 5, Mammalia synopsis], 18 pls., **19 June 1824** (*Lit. Chron.*); 26 June 1824 (*Lit. Gaz. & J.*); 28 June 1824 (*Courier*); 6 July 1824 (*Kaleidoscope*); July 1824 (*Mon. Mag.*); 1 August 1824 (*New Mon. Mag.*); 7 August 1824 (*Lit. Gaz.*).

Remarks. Part 2 comprised pages for both Vol. 1 and Vol. 5 of the Mammalia. The *New Monthly Magazine* gave 18 plates as being in the first part; and the review in the *Universal Review* (Anonymous, 1824b) gave a total of 38 plates for the first two parts, so that leaves 20 plates for the second part. The negative review of Part 1 in the *Monthly Critical Gazette* (Anonymous 1824a) also gives the same plate count (18) but has the pages as “203–352”.

Part 3, pp. 1–160, 16 plates [of vol. 2], **28 August 1824** (*New Times*; *Lond. Lit. Gaz.*; the latter reviewed parts 1–3 on 11 September 1824); 1 September 1824 (*Lond. Morn. Post*); 22 September 1824 (*Courier*); September 1824 (*Brit. Crit.*).

Part 4. [no text] [plate contents unknown], **26 November 1824** (*Morn. Chron.*), 30 November 1824 (*Lit. Chron.*, *Lond. Morn. Post*), 1 December 1824 (*Mon. Crit. Gaz.*); 6 December 1824 (*Courier*); 21 December 1824 (*Kaleidoscope*); December 1824 (*Mon. Mag.*); January 1825 (*Scot’s Mag.*).

Remarks. Part 4 of the Mammalia is an anomaly as the first two parts have all the pages of text for the first volume of the Mammalia. It is possible, then, that Part 4 was only an issue of plates and no text (or plates and possibly title pages for the completed volume 1). A tabulation of plates per the first three parts shows that 17 of the plates issued in the first three parts were bound in volume 1. Nissen (1966) listed 25 plates as constituting the completed volume 1, leaving 8 plates yet to be issued. They may have been issued in Part 4, but this cannot be verified as they could have been issued in any one of the parts that made up the 4 main volumes of the Mammalia, and may have been issued in other Parts of the *Animal Kingdom*.

Part 5, pp. 161–[??] [plate contents unknown], **7 March 1825** (*Morn. Chron.*; *Examiner*); 9 March 1825 (*Lond. Mon. Post*); 12 March 1825 (*Lit. Chron.*); 19 March 1825 (*Lond. Lit. Gaz.*); 1 April 1825 (*Mon. Mag.*); 2 April 1825 (*Courier*).

Part 6, pp. [??]–513, 68 plates [for entire volume 2; from Nissen (1966)], **18 June 1825** (*Lit. Chron.*); 25 June 1825 (*Lond. Lit. Gaz.*); 8 July 1825 (*Lond. Morn. Post*); July 1825 (*J. Gen. Litt.*).

Part 7, pp. 1–[172] [of vol. 3], [unknown pages of vol. 5, Mammalia synopsis] [plate contents unknown], **17 September 1825** (*Lond. Lit. Gaz.*); 1 October 1825 (*New Mon. Mag.*).

Remarks. As with Part 2, according to the review in the *New Monthly Magazine*, Part 7 is also split to contain pages for the main part of the Mammalia (for Vol. 3) and pages for the Synopsis (Vol. 5). The pages for Vol. 3 could be interpolated as 1–172; however, there is not information in the review to indicate exactly what pages were contained in Part 7 that pertain to Vol. 5.

Part 8, pp. [173]–332, [plate contents unknown], **1 December 1825** (*Times*, *Lit. Chron.* records as published on 1 December 1825) [*Lond. Lit. Gaz.* and *Examiner* have “to be published 1 December”]; 11 December 1825 (*Lond.*

Age); 13 December 1825 (*Lond. Morn. Post*).

Part 9, pp. 333–468 + [2], [18 plates] (plate count from the notice in the *Lit. Gaz.* & *J.* and *Lond. Mag.*; 65 total plates for volume], **1 May 1824** (*Lond. Morn. Post*); 15 May 1824 (*Courier*); May 1824 (*Lit. Gaz.* & *J.*); 3 June 1825 (*Lond. Lit. Gaz.*); June 1826 (*Lond. Mag.*); 19 August 1826 (*Lond. Lit. Gaz.*).

Part 10, pp. 1–[184], [plate contents unknown], **12 September 1826** (*Morn. Chron.*, *Courier*); 23 September 1826 (*Lond. Morn. Post*); September 1826 (*Ann. Philos.*).

Part 11, pp. [185]–344, [plate contents unknown], **24 February 1827** (*Lond. Lit. Gaz.*); February (*Lond. Mag.*).

Remarks. A publisher’s advertisement in the 22 December 1826 *Courier* said the 11th part would be “ready” on 29 December 1826. However, no notices in periodicals or newspapers from December could be found in this study to corroborate this date.

Part 12, pp. 345–498 + [1], [52 total plates for volume], **12 May 1827** (*Lond. Lit. Gaz.*); 30 May 1827 (*Courier*).

Part 13, pp. 1–391 + [1], [no plates (Nissen 1966)], **2 August 1827** (*Lond. Times*); 3 August 1827 (*Lond. Morn. Post*).

Remarks. Volume 5 of the Mammalia (which had no plates), essentially intended as a supplementary volume, was also visibly treated as such in the printing. The second title page (in Vol. 5 of the Mammalia) has a different title (see above); there is no volume number on the direction line as there was in volumes 1–4; the page numbers are placed on the inside bottom corner of each page as opposed to the normal outside top margin in the other volumes in the *Animal Kingdom*; the pages are in a small font size equal to the signature marks; and the signature marks start with “2 C” as opposed to “B” and succeed from there.

Table 2. Comparisons of dating of the Aves parts.

Overall Part	Vol.	Class Part	Pages	Pls.	Matthews (1920) pls.	Matthews (1920) date	Cowan date	Date in this study
14	6	1	1–184	16 pls		1 Dec 1827	1 Dec 1827	30 Nov 1827
15	6	2	185–360	16 pls		31 Mar 1828	31 Mar 1828	31 Mar 1828
16	6	3	357*–548	16 pls	18 pls	6 Aug 1828	6 Aug 1828	5 Aug 1828
17	7	4	1–192	18 pls		—	[Nov 1828]	1 Nov 1828
18	7	5	193–384	16 pls.		—	[Mar 1829]	1 Mar 1829
19	7	6	385–586	19 pls		21 May 1829	21 May 1829	21 May 1829
20	8	7	1–192	16 pls.	16 pls	15 Aug 1829	15 Aug 1829	6 Aug 1829
21	8	8	193–448	21 pls.	21 pls	31 Oct 1829	31 Oct 1829	31 Oct 1829
22	8	9	449–690	23 pls		—	23 Jan 1830	10 Jan 1830

Aves (overall vols. 6–8; overall parts 14–22)

Example first title page (from bound copy of volume 8): “*The animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with additional descriptions of all the species hitherto named, and of many not before noticed*, by Edward Griffith, F.L.S., A.S., corresponding member of the Academy of Natural Sciences of Philadelphia, &c. and others. Volume the Sixth. London: Printed for Whittaker, Treacher, and Co., Ave-Maria-Lane. MDCCCXXIX.”

Example second title page (from bound copy of volume 8): “*The Class Aves arranged by the Baron Cuvier, with specific descriptions* by Edward Griffith, F.L.S., A.S. &c. and Edward Pidgeon, Esq. the additional species inserted in the text of Cuvier by John Edward Gray, Esq., F.G.S. &c. Volume the Third. London: Printed for Geo. B. Whittaker, Ave-Maria-Lane. MDCCCXXIX.”

Title page dates: **Vol. 6:** 1829, **Vol. 7:** 1829, **Vol. 8:** 1829.

Authorship: Edward Griffith & Edward Pidgeon are authors of all three volumes, despite the fact that Griffith (1835) said Pidgeon had little to do with Vol. 8. New taxa are authored by John Edward Gray, except new genera and species by William Swainson in the “Observations” (pp. 677–690) in Part 22 [= the last part of Volume III of the Aves].

Wrappers have been seen for the nine parts that make up the three volumes (e.g., Figs. 9, 10, 12, 13). A copy from the University of Illinois-Urbana (UI) on BHL has the three Aves volumes bound with all of the wrappers for the parts, thus the pagination and plates per part can be directly seen. The contents of each part were bound as received without reordering of plates or removal of the wrappers, and even include pamphlets from publishers that have been bound in. Also noted in this UI copy with wrappers, which was seen in most other bound copies, is that pages 357 through 360 of Part 15 were reprinted and issued in Part 16 with additional material on those pages. The back wrapper of Part 15 says Part 16 was due in June 1828. The actual publication was 6 August 1828, a two month delay perhaps because of the reprinting of those 3 pages and resetting the remaining pages in Part 16. The total plates in the UI copy is 159, which differs from the 160 listed by Nissen (1966) and other copies examined in this study; and a publisher’s advertisement soon after completion of the whole work (Whittaker, 1837) gives 180 plates for the Aves section. There were also 2 unnumbered plates of birds issued in Part 1 of the Mammalia, but adding that to the UI wrappers total gives 161. The “List of Plates” tallies 160 names of birds (since there were no numbered plates) and confounding the numbering is the fact that two of the plates are instructed to be bound in two different places in the text (viz., the Madagascar Roller in Volume 7; and Levillant’s Darter in

Volume 8). That would mean two copies had to have been issued for each of these plates to follow the instructions. However, in the UI copy, these two plates were not duplicated; however two others were (the Black-necked Swan [issued in Part 15 and Part 22]; and the Generic Characters of Birds. Order Passeres. Fam. Tenuirostres [issued in Part 20 and Part 22]). These duplicates are not accounted for in the "List of Plates". The actual issuance of the Aves plates remains a mystery.

Another interesting bit of information that the wrappers give is that the publisher changed from "Geo. B. Whittaker" in Part 17 (1 November 1828) (Fig. 12) to "Whittaker, Treacher, and Co." in Part 18 (1 March 1829) (Fig. 13), i.e., in the middle of Vol. 7. This change apparently coincides with Whittaker being released from his creditors (see above) and deciding to go into partnership with Joseph Treacher, William Cumber Hood, and David Gale Arnot. This was only a management change as the printer at the time remained the same and there appear to be no significant changes to the type-setting, fonts, paper, or layout. Nor was there any significant delay in issuance. The back of the wrapper for Part 17 states "The Eighteenth number of the Animal kingdom will be published in February 1829". It appeared on 12 March 1829, not any more of a delay than many of the other parts for which anticipated dates are noted on the back of the wrappers in this study.

Dating of the parts

Part 14, pp. 1–184; 16 plates, **30 November 1827** (*Lond. New Times; Courier*); 1 Dec 1827 (*Lond. Lit. Gaz.*); December 1827 (*Gent. Mag.* [publisher's advertisement]).

Part 15, pp. 185–360, 16 plates, **31 Mar 1828** (*Lond. Lit. Gaz.*, *Lond. Morn. Post*); 12 July 1828 (*New Mon. Mag.*); July 1828 (*Quart. Lit. Advert.*).

Part 16, pp. 357*–360*, 361–548, 16 plates, **5 August 1828** (*Courier*); 6 Aug 1828 (*Athenaeum*); 9 August 1828 (*Mon. Lit. Advert.*).

Remarks. As noted above, Part 16 contained reprinted/corrected pp. 357–360 [marked with an asterisk] of Part 15 as well as pp. 361–548.

Part 17, pp. 1–192, 18 plates, **1 Nov 1828** (*New Mon. Mag.*); 29 November 1828 (*Courier*); 18 December 1828 (*Lond. Morn. Post.*).

Part 18, pp. 193–384, 16 plates, **1 Mar 1829** (*Mag. Nat. Hist.*, *Examiner*, *Oxford Lit. Gaz.*, 18 pls.); 9 March 1829 (*Morn. Chron.*, *Morn. Post*, *Courier*, 16 pls.); 10 March 1829 (*Mon. Lit. Advert.*, 16 pls.); 12 March 1829 (*Lond. Stand.*, 16 pls.); April 1829 (Whittaker advertisement dated April bound in with Aves Part 6 saying 5 parts of Aves published); September 1829 (*Mag. Nat. Hist.*).

Remarks. There is a discrepancy in the listing of the number of plates to this part, with the *Magazine of Natural History*, *The Examiner*, and the *Oxford Literary Gazette* having an advertisement by the publisher stating 18 plates and later advertisements in the *London Standard*, *Courier*, *Morning Chronicle*, *Monthly Literary Advertiser*, and the UI copy online with wrappers, which each have 16. The advertisements in the *Magazine of Natural History*, *The Examiner*, and *Oxford Literary Gazette* may have perhaps been an originally intended number when the advertisement was typeset, or else there were different compositions of plates per sale (the latter seems less likely).

Part 19, pp. 385–586, 19 plates, **21 May 1829** (*Athenaeum* and *Lond. Lit. Gaz.*); 23 May 1829 (*Standard*); 28 May 1829 (*Morn. Chron.*); 30 May 1829 (*Times*); 11 June 1829 (*Lond. Morn. Post*); September 1829 (*Mag. Nat. Hist.*).

Part 20, pp. 1–192, 16 plates [number of plates from UI wrapper and matches advertisement in *Lond. Morn. Post.*, *Lit. Gaz. & J.*, and *Morn. J.*], **4 August 1829** (*Courier*); 6 August 1829 (*Lond. Morn. Post*, *Lond. Stand.*); 15 Aug 1829 (*Lond. Lit. Gaz.*); 4 September 1829 (*Morning J.*).

Part 21, pp. 193–448, 21 plates, **31 Oct 1829** (*Lond. Lit. Gaz.*); 10 November 1829 (*Bent's Mon. Lit. Advert.*); 14 November 1829 (*Morn. J.*).

Remarks. The advertisement in the *Morning Journal* says there are 22 plates in Part 21, which differs from the actual number of 19 found in the UI copy with

wrappers. This may have been an intended plate count when the advertisement was typeset, but changed between that time and when Part 21 was issued.

Part 22, pp. 449–690, 23 plates, **10 January 1830** (*Lond. Age*); 19 January 1830 (*Lond. Morn. Post*); 23 Jan 1830 (*Lond. Lit. Gaz.*) [back cover of wrapper to Part 22 says Parts 22 and 23 came out together].

Remarks. Matthews (1920) listed the Aves parts as: “About nine parts bound in three volumes which are listed on January 23rd, 1830. Pt. 14 (1st of birds) December 1st, 1827; pt. 15, March 31st, 1828; pt. 16, August 6th, 1828, with 18 plates; pt. 19, May 21st, 1829; pt. 20 with 16 plates, August 15th, 1829; pt. 21, with 21 plates, October 31st, 1829. Further dates and contents of parts still desired.” Research in this study found dates of publication for parts 17 and 18 that Matthews (1920) and Cowan (1969) did not find; as well as an earlier date for Part 22. They are given above and in Table 3.

Zimmer (1926: 154–155) stated that Matthews (1920) had received his dates from Richmond and repeated them with source information on the periodicals in which the publication of the parts was noticed. Despite the information deriving from Richmond, a normally diligent bibliographer, there appears to be one error (probably a transcription error when the information was transmitted): Part 16, said to have 18 plates, fits better with part 17 having 18 plates — see Table 2 for comparison of contents and dates based on Matthews’s analysis of the Aves parts and those in this study from wrappers with contents intact. Pittie (2010: 195–196) repeated much of what Zimmer (1926) had noted for collation and dating.

The numbers of plates for the *Animal Kingdom* given by Nissen (1966) appear to be based primarily on the printed “List of Plates” in the preliminaries to volumes; however, sometimes (e.g., for

Reptilia [Vol. 9], Mollusca and Radiata; Annelida [vol. 12], and Crustacea, Arachnida [Vol. 13]) they are listed as per part so, in those cases, were quite likely based on examination of contents in a wrapper, but unfortunately no sources of the copies with those wrappers are given by Nissen.

Reptilia (overall vol. 9; overall parts 25–27)

Nissen (1966) gave a tally of plates per part. When other evidence was not found in this study for plates per part, I follow Nissen’s tally. First title page: “*The animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with additional descriptions of all the species hitherto named, and of many not before noticed*, by Edward Griffith, F.L.S., A.S., corresponding member of the Academy of Natural Sciences of Philadelphia, &c. and others. Volume the Ninth. London: Printed for Whittaker, Treacher, and Co., Ave-Maria-Lane. MDCCCXXXI.”

Second title page: “*The Class Reptilia arranged by the Baron Cuvier, with specific descriptions* by Edward Griffith, F.L.S., A.S. &c. and Edward Pidgeon, Esq. London: Printed for Whittaker, Treacher, and Co. Ave-Maria-Lane. MDCCCXXXI.”

Title page date: **Vol. 9: 1831.**

Authorship: Edward Griffith and Edward Pidgeon are authors of the translated material. John Edward Gray is sole author of the “*Synopsis*”, which comprises all of Part 27 of the *Animal Kingdom* and the last part of the Reptilia volume with separate pagination (pp. 1–160). Aside from the “*Synopsis*”, there is no indication as to explicit authorship of new taxa, thus, I follow Sherborn in his *Index Animalium* in treating John Edward Gray as author of the new taxa, except where Thomas Bell is quoted for descriptive characters for names from his collection.

Dating of the Parts

Part 25, pp. 1–192, 17 plates, **8 August 1830** (*Lond. Age*); 10 August 1830 (*Bent’s Mon. Lit.*

Advert.); 13 August 1830 (*Courier*); 14 August 1830 (*Lond. Lit. Gaz.*); 16 August 1830 (*Lond. Morn. Post*, 17 pls); 1 September 1830 (*New Mon. Mag.*); September 1830 (*Gent. Mag.*; reviewed); December 1830 (*Mag. Nat. Hist.*).

Part 26, pp. 193–481, [20 plates], [**December 1830**] (Cowan 1969a); February 1831 (*Mon. Rev.*).

Remarks. The total of 20 plates of the second (Part 26) part of the Reptilia is interpolated here based on the remaining plates needed to make the total of 55 plates for the Reptilia volume given in Nissen (1966) and verified in this study⁹. Notice of publication of Part 26 was not found in any of the journals examined so I follow Cowan (1969a) in estimating a December 1830 date. The *Monthly Review* reviewed the entire Reptilia volume in its February 1831 issue, so it is assumed publication was a few months earlier than Part 27 and a few months after Part 25 but still within 1830. Oddly, a check of all recording literature and newspapers from October 1830 to March 1831 had no notices or advertisements for Part 26.

Part 27 (“Synopsis of the species of the class Reptilia”), pp. 1–110, 18 plates, **5 February 1831** (*Athenaeum*); 6 February 1831 (*Atlas, Lond. Age*); 8 February 1831 (*Lond. St. James Chron.*); 12 February 1831 (*Lond. Lit. Gaz.*); 17 February 1831 (*Courier*); February 1831 (*Mon. Rev.*; *Gent. Mag.*); 10 March 1831 (*Mon. Lit. Advert.*); 12 March 1831 (*Edinb. Lit. J.*) [plate numbers from *Lond. Lit. Gaz.* and *Mon. Lit. Advert.* advertisements].

Remarks. The “synopsis” is bound with the main text and without separate title pages, but has separate pagination.

⁹ A publisher’s advertisement soon after completion of the *Animal Kingdom* (Whittaker, 1837) lists 60 plates for the Reptilia volume, which is a mystery. If correct, it must include five plates (unknown as to what they depict) added subsequently to the “List of Plates” for this volume, which tallies to 55. No known copies have been seen having 60 plates.

Pisces (overall vol. 10; overall parts 41–43)

The Pisces parts were planned for volume 10 of the entire *Animal Kingdom*, but the appearance of the parts did not occur immediately after issuance of the last Part of the previous volume (Vol. 9 on Reptilia). The work on translating the Pisces was delayed because of having to wait for the publication of the new material in Cuvier’s second edition of *Le Règne Animal* and this delay caused previous bibliographers some confusion in trying to account for dating of each part (e.g., Cowan 1969a attempted to date based on quarterly issuance of parts but could not place Part 43 after having given Part 42 a December 1834 date, which was the estimated end of the publication of the entire work. Cowan (1969a) gave the printers for the 3 “parts” of the Pisces volumes as Gilbert & Rivington (part 1), Baylis (part 2) and no listing for part 3 (although the colophon in the last Part on copies examined in this study has the printer again as Gilbert & Rivington).

First title page: “*The animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with supplementary additions to each order*, by Edward Griffith, F.L.S., L.S.S., corresponding member of the Academy of Natural Sciences of Philadelphia, &c. and others. Volume the Tenth. London: Printed for Whittaker and Co. Ave-Maria-Lane. MDCCCXXXIV.”

Second title page: “*The Class Pisces arranged by the Baron Cuvier, with supplementary additions*, by Edward Griffith, F.L.S., &c. and Lieut.-Col. Charles Hamilton Smith, C.H., K.W., F.R., L.S.S., &c. &c. London: Printed for Whittaker and Co. Ave-Maria-Lane. MDCCCXXXIV.”

Title page date: **Vol. 10:** 1834.

Authorship: Equivocal as to actual split of responsibility. Cowan (1969a) gave authorship of Part 41 to C.H. Smith. Griffith is no doubt responsible for the translated portions as well as some of the supplementary portions of all three parts. Smith drew many of the plates and is sometimes given sole authorship of the new taxa based on those plates. However, until dating of each plate

can be accurately ascertained, I follow Frick et al. (2019) in giving authorship of all new Pisces taxa proposed in the *Animal Kingdom* to “Griffith & Smith”, which follows the second title page.

Dating of the Parts

Part 41, pp. 1–192, [“nearly 40”] plates, **3 May 1834** (*Spectator*); 4 May 1834 (*Lond. Herald*); 10 May 1834 (*Bent’s Mon. Lit. Advert.*); 15 May 1834 (*Courier*); 17 May 1834 (*Athenaeum*; *Lond. Lit. Gaz.*, *Lond. Morn. Post*); 18 May 1834 (*Lond. Age*); 1 July 1834 (*Metropolitan*).

Part 42, pp. 193–448, [exact plates unknown], **4 May 1834** (*Lond. Lit. Gaz.*), August 1834 (*Bent’s Mon. Lit. Advert.*).

Part 43, pp. [viii] + 449–680, [exact plates unknown], **5 October 1834** (*Lond. Age*), 11 October 1834 (*Spectator*), 20 November 1834 (*Lond. Morn. Post*); 22 November 1834 (*Athenaeum*), November 1834 (*Quart. Lit. Advert.*).

Remarks. Pagination of Part 41 was estimated based on the review in *The Spectator*, which also states “nearly 40 plates”. With the pagination given for Part 43 in *The Spectator*, the pagination of the second part could be filled in. The number of plates listed for this volume varies in bibliographic works (cf. Table 1); e.g., Smith (1993) gave 64 and Nissen (1966) gave 62 (+ 2 replacement plates) (both of which no doubt included 62 plates issued with the Pisces parts plus the two unnumbered plates of fish in Part 1 of the Mammalia). However, the accurate total is given on the wrappers of the work as 67, which includes 3 replacement plates. Actual issuance of each plate including the replacement plates remains unknown.

The Fossil Remains of the Animal Kingdom (overall vol. 11; overall parts 23–24)

Cuvier did not cover fossils in his *Le Règne Animal* and this volume (solely by Pidgeon) was conceived initially as a supplementary volume to the entire series. It fits in between volumes

10 on Pisces and 12 on Mollusca and Radiata; although neither the Pisces nor Mollusca and Radiata were completed until after the Fossils.

This volume is supplementary to the main translation volumes and does not have a printed volume number on the title page but was treated as volume 11 of the entire series. The signature mark beginning this volume is “*B” as opposed to the normal “B” for the other volumes, which is a further indication this was not treated as a core part of the English translation as were the other volumes. A so-called “second edition”, 544 pages, 50 plates (the same collation as the original edition, with one extra plate) was published in 1844 and noted in a 5 October 1844 advertisement in the *Athenaeum*.

Title page: “*The fossil remains of the Animal Kingdom*, by Edward Pidgeon, Esq. London: Whittaker, Treacher, & Co. Ave-Maria-Lane. MDCCCXXX.”

Title page date: **Vol. 11**: 1830.

Authorship: Edward Pidgeon.

Dating of the Parts

Part 23, pp. 1–192, 19 plates, **10 January 1830** (*Lond. Age*); 23 January 1830 (*Lond. Lit. Gaz.*) [back cover of wrapper to Part 22 says Parts 22 and 23 came out together].

Part 24, pp. 193–544, 30 plates, **6 April 1830** (*Kent & Essex Merc.*); 10 April 1830 (*Bent’s Mon. Lit. Advert.*); 13 April 1830 (*Courier*); 15 April 1830 (*Lond. Times*); 16 April 1830 (*Lond. Morn. Post*); 17 April 1830 (*Lond. Lit. Gaz.*); 1 May 1830 (*Edinb. Lit. J.*, *New Mon. Mag.*); 8 May 1830 (*Dubl. Lit. Gaz.*).

Mollusca and Radiata (overall vol. 12; overall Parts 38–40)

Petit & Coan (2008) examined the contents, plates, and pagination for this volume and their results (except for earlier dates of publication obtained in this study) are followed here.

First title page: “*The animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with supplementary addi-*

tions to each order, by Edward Griffith, F.L.S., A.S., corresponding member of the Academy of Natural Sciences of Philadelphia, &c. and others. Volume the Twelfth. London: Printed for Whittaker and Co., Ave-Maria-Lane. MD-CCCXXXIV.”

Second title page: “*The Mollusca and Radiata. Arranged by the Baron Cuvier, with specific descriptions by Edward Griffith, F.L.S., A.S. &c. and Edward Pidgeon, Esq.* London: Printed for Whittaker, and Co. Ave-Maria-Lane. MD-CCCXXXIV.”

Title page date: **Vol. 12:** 1834.

Authorship: Edward Griffith and Edward Pidgeon are authors of the translated portions. John Edward Gray is author of the new taxa of Mollusca and Radiata (Zoophytes). Petit & Coan (2008) gave an excellent detailed account of the authorship of new taxa of Mollusca and are followed here. Thus, although Sherborn in his *Index Animalium* gave authorship of some new taxa in this volume to Griffith or Griffith & Pidgeon, John Edward Gray is here treated as author of all new taxa.

Dating of the Parts

Part 38, pp. 1–192, Mollusca pls. 1–39, Radiata (Zoophyte) pls. 1–20, **6 October 1833** (*Lond. Age*).

Remarks. Petit & Coan (2008) listed the Mollusca plates for Part 38 as 1–39. The remaining plate would have to be one for zoophytes and is listed as such here. Petit & Coan (2008) also noted a replacement of three of the Mollusca plates (28, 36, and 37 that were issued in Part 38) because the original images were reversed. Those corrected plates (indicated with an asterisk (*)) in the “List of Plates” in the preliminaries to the bound volume) would then have had to be issued in either of the two subsequent parts. Since Nissen (1966) recorded the plates per part for the Mollusca and Radiata volumes (most likely from seeing parts in wrappers) and he gave no plates for Part 39, I have followed that here so that these remaining Mollusca and Radiata plates were thus issued in the last

(40th) part to the volume¹⁰. There is a discrepancy, however. Nissen recorded 60 plates total for the 12th volume. A tally of the actual plates in the “List of Plates” is 61 [plus the three cancels for plates 28, 36, and 37], which was the tally recorded by Smith (1993) and Grasse (1861) who also added the three cancels to the total making 64 (see Table 1).

Part 39, pp. 193–384, [no plates issued, see Remarks to Part 38], **26 December 1833** (*Times*).

Part 40, pp. i–viii, 385–601, Mollusca pls. 28*, 36*, 37*, 40–41, **1 March 1834** (*Spectator*); 3 March 1834 (*Lond. Morn. Post*); 4 March 1834 (*Courier*); 6 March 1834 (*Times*); 8 March 1834 (*Lond. Lit. Gaz., Athenaeum*); 16 March 1834 (*Sun. Herald*); 30 March 1834 (*Lond. Age*); March 1834 (*Quart. Rev., Quart. Lit. Advert.*); April 1834 (*New Mon. Mag.*).

Annelids, Crustacea and Arachnids (overall vol. 13; overall parts 35–37)

After his initial estimate (Cowan, 1969a) of dates of publication and association of parts with animal groups, Cowan (1969b) added information on volume 13 based on wrappers and contents of parts 35–37 held in the Hunterian Museum, Glasgow.

¹⁰ Nissen (1966) listed 40 plates for Part 38 and 20 plates for Part 40, but the publisher’s advertisement in the *Times London* for Part 39 gives 20 plates. The discrepancy could be either that Nissen made a mistake, or that the publisher’s advertisement was wrong. Given the fact that other early advertisements by the publisher of a given part had plates listed that were different than what reviewers of the contents recorded leads me to believe that the advertisements may not have always been correct (possibly the publisher had “intended” to issue a certain number of plates but the actual number changed after the early advertisement. I thus lean more toward reviewers and others recording the actual contents of parts received as being more accurate. In this case, I follow Nissen in placing the 20 plates in Part 40. Given that there were three corrections to previous plates mentioned by Petit & Coan (2008) in this part, the plates intended for Part 39 may have been delayed to Part 40 in order to allow the corrections to be inserted.

First title page: “*The animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with supplementary order* by Edward Griffith, F.L.S., A.S., corresponding member of the Academy of Natural Sciences of Philadelphia, &c. and others. Volume the Thirteenth. London: Printed for Whittaker, Treacher, and Co., Ave-Maria-Lane. MDCC-CXXXI.”

Second title page: “*The Classes Annelida, Crustacea, and Arachnida, arranged by the Baron Cuvier, with supplementary additions to each order* by Edward Griffith, F.L.S., A.S. &c. and Edward Pidgeon, Esq. London: Printed for Whittaker, Treacher and Co., Ave-Maria-Lane. MDCCCXXXIII.”

Title page date: **Vol. 13: 1833.**

Authorship: Edward Griffith & Edward Pidgeon. New taxa of arachnids are attributed to G.R. Gray.

Remarks. Sherborn listed one new genus and two new species (on pl. 20, and p. 539) from this volume in his *Index Animalium*, attributing them to G.R. Gray, the author attribution on the plate. Although Sherborn does not list in his *Index Animalium* any new taxa of Crustacea in this volume, one plate (pl. 17, fig. 2) has the caption *Nika cannelata*, the name of which De Grave & Fransen (2011) attributed to “Griffith & Pidgeon”, which is followed here.

Dating of the Parts

Part 35, pp. 1–192, 8 plates, **9 March 1833** (*Bent’s Mon. Lit. Advert.*); 11 May 1833 (*Athenaeum*), June 1833 (*Gent. Mag.*).

Part 36, pp. 193–384, 25 plates, **4 May 1833** (*Lond. Lit. Gaz.*), October 1834 (*Edinb. Rev.*, *Westm. Rev.*).

Part 37, pp. 385–540, 27 plates, **22 June 1833** (*Lond. Stand.*); 30 July 1833 (*Lond. Lit. Gaz.*); 10 August 1833 (*Bent’s Mon. Lit. Advert.*); October 1833 (*Edinb. Rev.*, *Westm. Rev.*).

Remarks. The plates per part were given by Nissen (1966) and were corroborated by the wrapper contents given by Cowan

(1969b); however, the exact association of each of the plates with a particular part remains unknown.

Insecta (overall vols. 14–15; overall parts 28–34)

Cowan (1969a) made the first concerted attempt to establish estimated dates for parts based on the formula of quarterly publication of each part. At the time, he only had a few resources to go on and his table of estimated publication dates holds up well, except for a few errors in association of parts with animal group and the absence of some parts that have since been found. He later (Cowan 1971b) gave evidence of publication and authorship of some of the Insecta plates by Guérin, of which J.O. Westwood had obtained proofs, which he used for making copies that were used in the *Animal Kingdom*. Westwood subsequently obtained a complete set of 140 proof impressions of Insecta plates from the *Animal Kingdom*, which are contained in a specially bound volume in the OXUMNH (Figs. 5a,b). The handwritten title page indicates that Westwood had illustrated over half of them, and that 52 were from Guérin’s *Iconographie*, and gave the other derivations of another six plates in the set.

A number articles have specifically dealt with the dating and plates of the Insecta parts, possibly prompted by Westwood (1835) having given information on use of some of Guérin’s plates from his simultaneously published *Iconographie du Règne Animal* (Guérin-Ménéville, 1831–1844), a fact that requires some research to determine which work had priority of the use of the same names on the same plates (but numbered differently in different works by different authors).

The total number of plates cited by most bibliographers is 140. A plate 139 is not among those in the “List of Plates”, but there is an extra plate labeled as “83*” in the “List of Plates” which makes for a total of 140 plates. Nissen (1966) gave the total as 141, but may have included the additional unnumbered plate of butterflies contained among the plates issued in Mammalia Part 1.

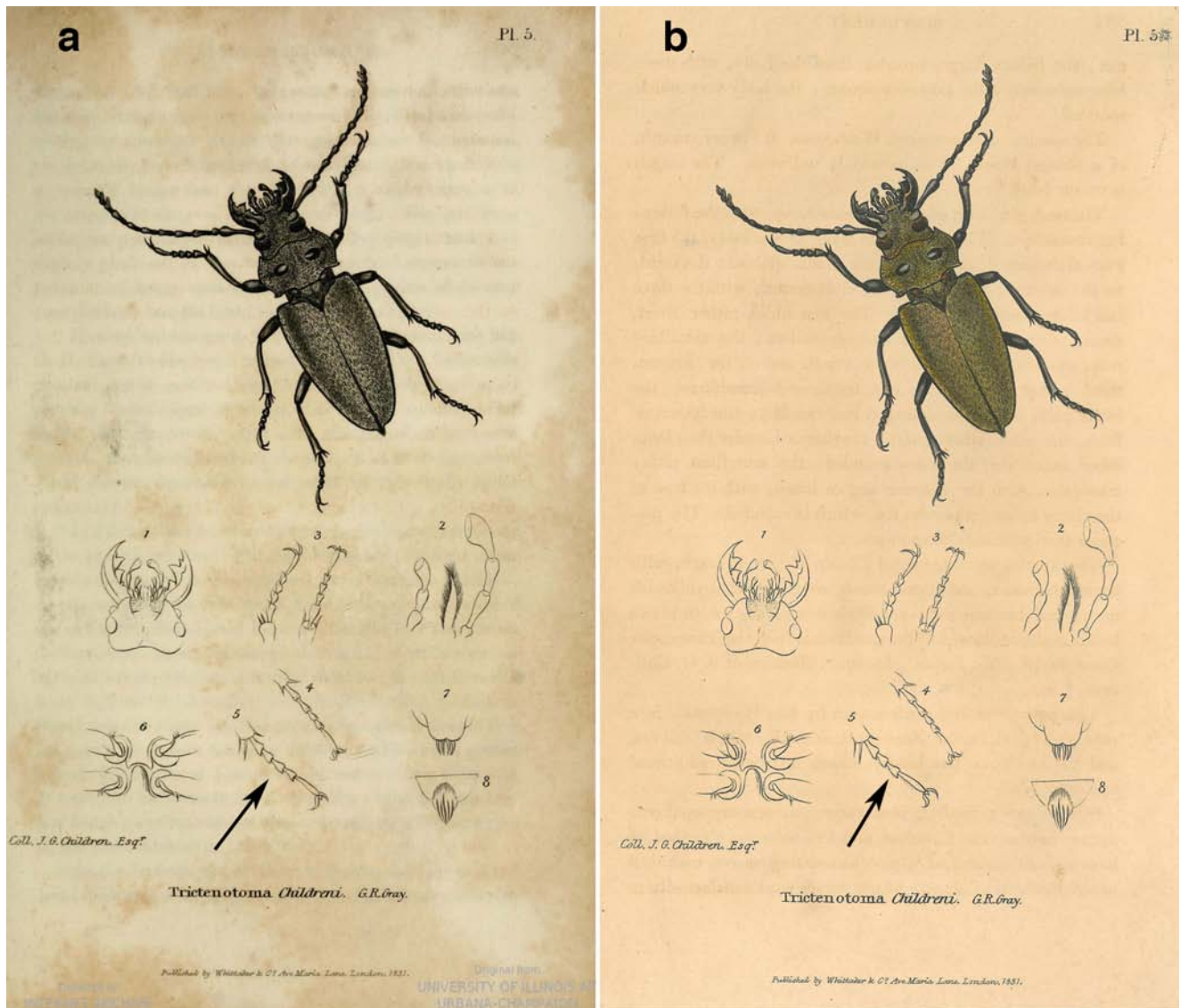


Figure 14. Examples of Insecta plate 5 depicting original and corrected plates of *Trictenotoma childreni* Gray. **a**, Plate 5, original plate, uncolored; **b**, Plate 5*, corrected plate, colored. Arrow points to tarsomeres that are corrected in pl. 5*. See text for more details.

Example first title page (from bound volume 14): “*The animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with supplementary additions to reach order* by Edward Griffith, F.L.S., A.S., corresponding member of the Academy of Natural Sciences of Philadelphia, &c. and others. Volume the Fourteenth. London: Printed for Whittaker, Treacher, and Co. Ave-Maria-Lane. MDCCCXXXII.”

Example second title page (from bound volume 15): “*The Class Insecta arranged by the Baron Cuvier, with supplementary additions to each order* by Edward Griffith, F.L.S., A.S.

&c. and Edward Pidgeon, Esq. and notices of new genera and species by George Gray, Esq. Volume the Second. London: Printed for Whittaker, Treacher and Co., Ave-Maria-Lane. MDCCCXXXI.”

Title page dates: **Vol. 14:** 1831; **Vol. 15:** 1832.

Authorship: Authorship of new taxa proposed in these volumes has been confused over the years, some being attributed to Griffith, Griffith & Pidgeon, George Robert Gray, or even John Edward Gray. Cowan (1969a) clarified the authorship of new taxa proposed where textual descriptions of depicted new species in both volumes should be attributed to George Robert Gray, as indicated in a note on p. 780 of Vol. 15.

Dating of the Parts

Part 28, pp. 1–192, 19 pls., **23 April 1831** (*Lond. Lit. Gaz.*; number of plates from notice); 24 April 1831 (*Lond. Weekly Times*; 19 pls.); 1 May 1831 (*Lond. Age*); 9 May 1831 (*Courier*).

Part 29, pp. 193–384, pls. 5, 19, 21–41 [plates from Cowan (1971b)], **2 July 1831** (*Athenaeum*; *Courier*, 23 pls.); 3 July 1831 (*Lond. Age*, 23 pls.); 16 July 1831 (*Courier*); 1 August 1831 (*Quart. Lit. Advert.*); August 1831 (*Engl. Mag. Advert.*, 23 pls).

Part 30, pp. 385–570, [38 pls.], **8 October 1831** (*Athenaeum*), 15 October 1831 (*Lond. Lit. Gaz.*).

Remarks. My personal copy of the Insecta plates possesses a cancel that has not been recorded previously. In my copy (which was bound in the 1870s and may have been purchased at the same time or possibly a short time before), a plate 5* is used in place of plate 5 (the latter of which was issued in Part 28). A comparison of plate 5 and plate 5* shows that, in plate 5, one leg of the beetle was drawn with only five tarsomeres. It was corrected in plate 5* to four tarsomeres (cf. Figs. 14a, b). There is no evidence as to when plate 5* was sent to subscribers or buyers, but the publication year at the bottom of the plate is the same for both (1831) and could have either been added to the plates in a subsequently issued part (less likely) or added later after the *Animal Kingdom* was complete (since the plate is not among those listed in the “List of Plates” for the Insecta volumes although another extra plate (83*) was listed. Plate 83* is of a different species than that on plate 83, and is not a correction, as is plate 5*.

Cowan (1971a) mentioned briefly that he had seen Part 29 in the Oxford Museum and (Cowan 1971b) listed the plates that were found in that Part. These plates have been found but no wrapper to Part 29 was found during this study, and, if seen by Cowan, may have been discarded after Cowan’s 1971 research.

The number of plates for Part 30 is here interpolated as 38 based on the number of plates dated as “1831” (81) and subtracting those that are known to have been issued for

Parts 28 and 29. The placement of plates in bound volumes has no bearing on date of issue as the “List of Plates” (essentially an instruction to the binder) lists plates dated as 1832 to be bound in volume 14, the last part of which came out in 1831.

Part 31, pp. 1–192, [plates unknown], **1 February 1832** (*Metropolitan*).

Part 32, pp. 193–384 [plates unknown], [between **1 Feb 1832 and 22 June 1832**]; July 1832 (*Mon. Rev.*); 9 August 1832 (*Lond. Morn. Post*).

Remarks. The earliest date found for this part is the July 1832 review of Parts 28–32 in the *Monthly Review*. However, the next Part (33) has been recorded as early as 22 June 1832. Since parts came out chronologically, I have interpolated the publication date for Part 32 as issued sometime between 1 February 1832 and 22 June 1832.

Part 33, pp. 385–576 [plates unknown], **22 June 1832** (*Lond. Guard.*), 2 August 1832 (*Courier*, *Morn. Chron.*), 5 August 1832 (*Lond. Age*); 8 August 1832 (*Lond. Lit. Gaz.*, *Athenaeum*); 10 August 1832 (*Bent’s Mon. Lit. Advert.*); 20 August 1832 (*Lond. Morn. Post.*); 29 August 1832 (*Times*).

Part 34, pp. 577–796, 681*–684*, 20 pls., **17 November 1832** (*Lond. Lit. Gaz.*, *Athenaeum*); 23 November 1832 (*Lond. Morn. Post*); December 1832 (*Metropolitan*; review).

Remarks. As opposed to most parts of the *Animal Kingdom* that were made up of three parts per volume, volume 15 comprised 4 parts. This assumption of three parts per volume led Cowan (1969a) to a miscalculation on parts and pages for the Insecta volumes. Volume 15 contains an inserted signature of four pages printed as 681*–684* (dealing with the “Eleventh Order of Insects”, the

“Rhipiptera” and placed between pages 680 and 681 in bound copies I have seen) that had to have been issued at the time the title pages for volumes 14 and 15 were issued (= Part 34), which means the pages were an additional four pages to the pages issued in Part 34. Association of plates with parts 31–33 is unknown, but the review in the *Metropolitan* (Anonymous 1832) gave 20 plates as issued for Part 34. I interpolate 39 plates for the first three parts of the second volume (see Table 3), which was calculated by subtracting 101 (= the known 81 plates for volume 1 plus the 20 for Part 34) from the total 140 for both volumes.

Index and Synopsis (overall vol. 16; overall Part 44)

This volume is divided into three sections. The first has 119 Roman numerated pages and is an overall synopsis of all the animals treated in the other 15 volumes; the second section, with 282 Arabic numerated pages, is the index to all the scientific names of animals in the other 15 volumes; the last section (pp. 283–328) is an annotated list of the authors quoted in the entire work.

Title page: “*A classified index and synopsis of the animal kingdom arranged in conformity with its organization, by the Baron Cuvier, member of the Institute of France, &c. &c. &c. with supplementary additions to each order, by Edward Griffith, F.R.S., S.A. & L.S., corresponding member of the Academy of Natural Sciences of Philadelphia, &c. and others.* London: Printed for Whittaker and Co., Ave-Maria-Lane. MDCCCXXXV.”

Title page date: **Vol. 15:** 1835.

Authorship: Edward Griffith.

Dating of the parts

Part 44, pp. i–cxix, 1–328, [no plates], **1 February 1835** (*Metropolitan*); 1 March 1835 (*Lond. Age*); 10 March 1835 (*Lond. Morn. Post*); March 1835 (*Bent’s Mon. Lit. Advert.*).

Remarks. This volume strays from the typical printing format in a number of

ways. There is only one title page since this volume deals with all the groups dealt with in the previous 15 volumes. The first section (pp. i–cxix) is entitled “*Conspectus of the entire animal kingdom*” and lacks a direction line at the bottom, and has signature marks beginning with “a 2”. The second section, entitled “*Index to the animal kingdom*” (pp. 1–328); in place of the volume number on the direction line at the bottom of the first page of each signature, there is the abbreviation “Cuv. Index” (for pages 1–282) and “Cuv. Table of Authors” (for pages 283–328). The signature marks begin with “B”. There are no new names in Vol. 16, all names listed therein referring to those in the preceding 15 volumes.

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Appendix

Glossary of Terms Used

Blank - An unprinted leaf that forms part of the bound book.

Cancel - If a mistake has been found after printing that might be corrected by the deletion of a single leaf, another leaf with the correction is sometimes printed and can be used to replace the incorrect one. The deleted leaf is termed cancelled and the substitute leaf is a cancel. This happens most often in *plates*. in the *Animal Kingdom*, at least three instances of incorrect *plates* have been known to involve cancels (see under *Molusca* below for more details).

Cancelled - A *leaf* that has been deleted and replaced by a *cancel* (see *cancel* above more information).

Collation - The descriptive assemblage of a book; in descriptive bibliography, often using a shorthand notation of the sequence of *signature marks*, *blanks*, *cancels*, etc.; in most other bibliographies, giving only a summary of page numbers and plates in a sequential order. Also the process of *gathering* the *signatures* (and sometimes plates) into a proper order before binding.

Colophon - The statement, usually at the end of the work, giving the name and address of the printer. The term derives from the Greek “κολοφών”, meaning “finishing touch”.

Demy Octavo - A final size of a page after folding that roughly equals 5.5 in. × 8.5 in.

Demy Quarto - A final size of a page after folding that roughly equals 8.625 in. × 11.750 in.

Direction line - The line at the bottom of the *page* of text that presents the *signature mark* at the bottom right and sometimes additional information at the bottom left (e.g., in the *Animal Kingdom*, the Mammalia volumes have “Vol. I”, “Vol. II”, “Vol. III”, etc.) to aid in binding. This was no doubt necessary in the Mammalia as plates issued in some of the parts issued in 1827 were instructed to be bound to face pages in volume one, for which its three parts of text were complete in the summer of 1824. Thus, buyers had to wait three years before they could receive the “List of Plates” with instruction on

where to bind throughout the five volumes; the plates were originally issued in twelve parts from February 1824 to May 1827 (the thirteenth part did not have plates in it to be bound but the part may have contained the last set of plates needed to be bound in other volumes).

Engraver - The person responsible for readying the artwork for printing through transferring the artwork to stone or metal for final inked printing. The process used for the *Animal Kingdom* artwork was intaglio engraving on copper plates.

Gathering - 1) The process of assembling signatures into a stack for binding; 2) The gathered signatures before binding (the final stack sometimes also referred to as “fold and gathered” or “F and Gs”. Dickinson *et al.* (2011) used *gathering* as their preferred term for *signature* but the two are distinctly different.

India paper - A thick, opaque, absorbent paper, originally from China, made from hemp and rag fibers, which was used for printing proofs from engravings. Possibly because of the absorbency, hand-coloring was not done on the printed illustrations on this type of paper for the plates of the *Animal Kingdom* (Freeman, 1980).

Insertions - Material inserted into a gathering before binding; plates and other non-letterpress material are termed “insertions”.

Leaf - both the recto and verso of a bound or folded and cut sheet of a book. Equals two pages.

Letterpress - The printed textual portion of a book that is eventually folded and gathered to be bound; as opposed to plates, which are called insertions. Title pages may or may not be a part of the letter press, depending if they were or were not issued for more than one issue or part of a multi-part work that were published at different times.

Intaglio - An engraving process for artwork that employs cutting depressions into a hard surface, where the ink is held in the depressions. The plates in the *Animal Kingdom* were made using this process on copper plates.

Octavo - A type of folding resulting in a signa-

ture of 16 pages [Evenhuis (1997) incorrectly had this as 32 pages].

Page - Either the *verso* or *recto* of a leaf (printed or blank).

Plate - Artwork printed separately from the letterpress, sometimes on different paper. In the case of the *Animal Kingdom*, three types of plates were offered to buyers: uncolored or colored on plain paper in octavo; or proof plates on India paper in quarto. According to Freeman (1980) the plates for the *Animal Kingdom* on India paper were uncolored. Plates conventionally do not have signatures to guide the binder to proper collation for binding. Printers insert and bind plates into a book either by plate number and at the end of the letterpress, or inserted into specific places in the text following instructions to the binder.

Preliminaries - The front matter of a book preceding the main text containing the title pages, preface, forward, and other sections, usually distinguished from the main text by roman numerated pagination and differently styled signature marks (usually using a lower case alphabet).

Proof plates - Printed plates taken out before the binding process.

Proofs - The first printing used for checking before final printing.

Quarto - A type of folding resulting in a signature of 8 pages [Evenhuis (1997) incorrectly had this as 16 pages].

Recto - When bound, the right-hand side page of a book (almost always an odd numbered page).

Royal Octavo - A page size after folding that equals roughly 10.00 in. × 6.25 in.

Sheet - the single piece of paper used for printing. The size associated with the type of signature (e.g., octavo, quarto, etc.).

Signature - The folded set of pages printed onto the sheet. In the case of the *Animal Kingdom*, the text and plates were both printed in octavo (16 pages per signature); whereas the proof plates on India paper were in quarto (8 pages per signature) (see also *Gatherings* above).

Signature mark - A mark (usually) at the bottom right of a page on the direction line used to assist the binder and gatherer in assembling the book signatures in the correct order. In the *Animal Kingdom*, lettered signatures were used with the main text starting with an uppercase "B" and continued through the alphabet omitting "J", "V", and "W". After having run through the alphabet, the next series of signature marks would be indicated as "2 A", "2 B", etc. The preliminaries started with a lower case "b".

Verso - When bound, the left-hand side of a page of a book (almost always an even numbered page).

Table 3. Dating of the parts of Griffith's *Animal Kingdom*.

Overall Part	Vol.	Class Part	Wrapper exists	Subject	Pages	Pls. per Part	Nissen (1966) plate total per vol. or part	Earliest Date*	Cowan date*
1	1	1	x	Mammalia	i-lxxx, 1-204	18 pls	25	13 Feb 1824	29 Feb 1824
2 [part]	1	2	x	Mammalia	205-352	20 pls		19 Jun 1824	[Jul 1824]
4	1	4		Mammalia	[—]	???		26 Nov 1824	[Mar 1825]
3	2	3	x	Mammalia	1-160	16 pls	68	28 Aug 1824	[Nov 1824]
5	2	5		Mammalia	161-[??]	???		7 Mar 1825	[Jul 1825]
6	2	6		Mammalia	[??]-513	???		18 Jun 1825	[Nov 1825]
7[part]	3	7		Mammalia	1-172	???	65	17 Sep 1825	[Mar 1826]
8	3	8		Mammalia	[173]-332	???		1 Dec 1825	[Jun 1826]
9	3	9		Mammalia	333-468 + [2]	18 pls.		1 May 1826	[Sep 1826]
10	4	10		Mammalia	1-184	???	52	12 Sep 1826	[Dec 1826]
11	4	11		Mammalia	[185]-344	18 pls		24 Feb 1827	[Mar 1827]
12	4	12		Mammalia	345-498 + [1]	???		12 May 1827	[Jun 1827]
2 [part]	5	2	x	Mammalia synopsis	1-52	—	0	19 Jun 1824	[Jul 1824]
7[part]	5	7		Mammalia synopsis	[??]	—		17 Sep 1825	[Mar 1826]
13	5	13		Mammalia synopsis	[??]-391 + [1]	—		2 Aug 1827	[Sep 1827]
14	6	1		Aves	1-184	16 pls	32	30 Nov 1827	1 Dec 1827
15	6	2	x	Aves	185-360	16 pls		31 Mar 1828	31 Mar 1828
16	6	3	x	Aves	357*-548	16 pls		5 Aug 1828	6 Aug 1828
17	7	4	x	Aves	1-192	18 pls	60	1 Nov 1828	[Nov 1828]
18	7	5	x	Aves	193-384	16 pls.		1 Mar 1829	[Mar 1829]
19	7	6	x	Aves	385-586	19 pls		21 May 1829	21 May 1829
20	8	7	x	Aves	1-192	16 pls.	68	4 Aug 1829	15 Aug 1829
21	8	8	x	Aves	193-448	19 pls.		31 Oct 1829	31 Oct 1829
22	8	9	x	Aves	449-690	23 pls		10 Jan 1830	23 Jan 1830

Table 3 (continued).

Overall Part	Vol.	Class Part	Wrapper exists	Subject	Pages	Pls. per Part	Nissen (1966) plate total per vol. or part	Earliest Date*	Cowan date*
23	11	1		Fossils	1–192	19 pls	49	10 Jan 1830	[Mar 1830]
24	11	2		Fossils	193–544	30 pls		6 Apr 1830	[Jun 1830]
25	9	1		Reptilia	1–192	17 pls	55	8 Aug 1830	[Sep 1830]
26	9	2		Reptilia	193–481	20 pls		[Dec 1830]	[Dec 1830]
27	9	3		Reptilia synopsis	1–110	18 pls		5 Feb 1831	[Mar 1831]
28	14	1		Insecta	1–192	19 pls		23 Apr 1831	[Jun 1831]
29	14	2	✗	Insecta	193–384	5, 19, 21–41		2 Jul 1831	[Sep 1831]
30	14	3		Insecta	385–570	[38 pls]		8 Oct 1831	[Dec 1831]
31	15	4		Insecta	1–192			1 Feb 1832	[Mar 1832]
32	15	5		Insecta	193–384	[39 pls]	141 for both vols.	[1 Feb–22 Jun 1832]	[Jun 1832]
33	15	6		Insecta	385–576			22 Jun 1832	[Sep 1832]
34	15	7		Insecta	577–796, 681*–684*	20 pls		17 Nov 1832	[Dec 1832]
35	13	1	✗	Annelida, Crustacea, Arachnida	1–192	8 pls	8	10 Mar 1833	[Mar 1833]
36	13	2	✗	Annelida, Crustacea, Arachnida	193–384	25 pls	25	4 May 1833	[Jun 1833]
37	13	3	✗	Annelida, Crustacea, Arachnida	385–540	27 pls	27	20 Jul 1833	[Sep 1833]
38	12	1		Mollusca and Radiata	1–192	Mollusca 1–39 Zoophyte 1	40	6 Oct 1833	[Dec 1833]
39	12	2		Mollusca and Radiata	193–384	—		26 Dec 1833	[Mar 1834]

Table 3 (continued).

Overall Part	Vol.	Class Part	Wrapper exists	Subject	Pages	Pls. per Part	Nissen (1966) plate total per vol. or part	Earliest Date*	Cowan date*
40	12	3		Mollusca and Radiata	viii+385-601	28*, 36*, 37*, 40-41; Zoophyte 2-20	20	1 Mar 1834	[Jun 1834]
41	10	1		Pisces	1-192	"nearly 40" pls.	62 + [2]	3 May 1834	[Sep 1834]
42	10	2		Pisces	[193-448]	???		2 Aug 1834	[Dec 1834]
43	10	3		Pisces	[viii] + 449-680	???		5 Oct 1834	—
44	[16]	—		Index	i-cxix, 1-328	—	—	1 Feb 1835	[1835]

interpolated pp. and pls. in square brackets

* interpolated dates in square brackets

dates in **red** are earlier than previously published; see text for sources