

THEODOR VON HEUGLIN'S *Ornithologie Nordost-Afrika's, der Nilquellen- und Küsten-Gebiete des Rothen Meeres und des nördlichen Somal-Landes* – Notes relevant to the dates of publication of its parts

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> Abstract

Our paper aims to establish publication dates of the monograph of THEODOR VON HEUGLIN which appeared in 57 parts over a period of six to seven years. Accurate dates for these parts would help determine authorship of some names that appear in two or three closely contemporaneous publications by authors dealing with new species of birds collected in north-eastern Africa. We have concluded that it is still not possible to date each part precisely, or even to be certain of the pagination of some parts, but that we can arrive at some reasonable conclusions as to which pages and which plates were published in which year. Due to the limits to our evidence these conclusions must be preliminary. So one of our objectives is to appeal for help in finding a set of this book still in the wrappers of the original parts, and, second, for help in locating relevant published reports of all books published in Cassel in the period 1868 to 1875. We are confident enough in our year dates that we list in an appendix the new generic names and species-group names proposed in this work. None of these names occurs within pp. 1–64 (which may have appeared in either 1868 or 1869).

> Kurzfassung

In dieser Arbeit legen wir die Erscheinungsdaten von THEODOR VON HEUGLIN'S Monographie fest, die in 57 Lieferungen über einen Zeitraum von sechs bis sieben Jahren erschienen ist. Die genaue Datierung dieser Lieferungen ist notwendig, um die Autorenschaft einiger Namen zu sichern, die zeitnah in zwei bzw. drei Arbeiten über Vögel in Nordostafrika erschienen sind. Wir mussten feststellen, dass es bis heute nicht möglich ist, jede einzelne Lieferung exakt zu datieren. Selbst genaue Seitenzahlen ließen sich für einzelne Lieferungen nicht ermitteln. Wir können aber das jeweilige Erscheinungsjahr für Seiten und Tafeln festschreiben. Wir sind auf der Suche nach einer ungebundenen Ausgabe, bei der sich die einzelnen Lieferungen noch im Schutzumschlag befinden. Außerdem suchen wir nach weiteren Quellen über Neuerscheinungen aus dem Verlag THEODOR FISCHER in Cassel aus den Jahren 1868 bis 1875. Wir halten unsere Jahreszahlen für vertrauenswürdig genug, um in einem Anhang alle in diesem Werk neu aufgestellten Gattungs- und Artnamen aufzulisten. Keiner dieser Namen erscheint auf den Seiten 1–64, die entweder 1868 oder 1869 erschienen sind.

> Key words

Theodor von Heuglin, Otto Finsch, Gustav Hartlaub, Jean Cabanis, first description, East Africa, precedence of names.

Introduction

MARTIN THEODOR VON HEUGLIN (born March 20, 1824 in Hirschlanden, Württemberg, died November 5, 1876 in Stuttgart), was a German explorer and ornithologist. Trained as a mining engineer he travelled through north-eastern Africa between 1851 and 1862, to the Red Sea and Eritrea from 1856 to 1857 and to Sudan from 1863 to 1864. Besides Africa, HEUGLIN also explored the northern Polar Regions in 1870 and 1871 (BACMEISTER, 1950; GEBHARDT, 1964) and some of these trips may well have disturbed his concentration on the publication of the book about which we write.

During his expeditions he made valuable collections of natural history specimens, mainly birds and mammals, and some of these were new to science. The new birds from north-eastern Africa were first reported by him in articles in the following scientific journals: the *Sitzungsberichte der Akademie der Wissenschaften, Wien* (HEUGLIN, 1856), the *Journal für Ornithologie* (HEUGLIN, 1861a, 1862a, 1862b, 1862c, 1863, 1867, 1868a, 1868b, 1868c, 1868d, 1869a, 1869b) and *The Ibis* (HEUGLIN, 1860, 1861b, 1861c, 1869c, 1869d).

His major work, “Ornithologie Nordost-Afrika’s, der Nilquellen- und Küsten-Gebiete des Rothen Meeres und des nördlichen Somal-Landes” on which we report here, treated some 950 species, but due to his earlier publications, the only novelties are three new genera and 36 new species-group names.

HEUGLIN’s work was, at least initially, rather unskilled. In his 1856 publication, “Systematische Übersicht der Vögel Nord-Ost-Afrika’s” most new names had to be regarded as *nomina nuda* (BLANFORD, 1870, SCHIFTER, 1991). Indeed, only those names he later re-published with descriptions are valid, and they date from their re-publication. He was also responsible, over the years, for creating a good many synonyms and for using incorrect subsequent spellings of his own names.

By the late 1860s, however, he was encouraged by two leading ornithologists: OTTO FINSCH and GUSTAV HARTLAUB. HEUGLIN not only exchanged manuscripts with them and quoted from their work; he also quoted freely from their proof-sheets in his own works, especially in the “Ornithologie Nordost-Afrika’s” (SHARPE, 1870). Because these authors were producing their own “Die Vögel Ost-Afrikas” (FINSCH & HARTLAUB, 1870) the original authorship of certain names depends on dates of publication rather than who actually coined each name. The modern convention is that acknowledging the author of the MS name, an action which may have presumed that *that* author would retain credit for it, is insufficient to achieve that

objective; and authorship instead belongs to he who published the name, which implies giving it validity by publishing a description as well (I.C.Z.N. 1999, Art. 50.1). If the author of the MS name provided a description and it is clear that it was his, for example because it is placed in quotation marks, the publisher of the work in which this is included does not become the author of the name.

Our principal reason for this review was to establish authorship for names appearing in both “Die Vögel Ost-Afrikas” and “Ornithologie Nordost-Afrika’s”. The former work appeared as volume four in VON DER DECKEN’s travels, and had been preceded by an account by CABANIS (1869a) of the birds collected by VON DER DECKEN himself and for which HEUGLIN had prepared 18 plates (HARTLAUB, 1870: 11–12; ANONYMOUS, 1870: 127). Volume 4, “Die Vögel Ost-Afrikas”, was published sometime in May or June 1870 (ANONYMOUS 1870; TRÖMEL 1870) at a point when some of HEUGLIN’s work had appeared and some had not. HEUGLIN supplied the plate of *Falco concolor* for use by FINSCH & HARTLAUB, and in his own Vorwort HEUGLIN (1869: XII) thanked OTTO KERSTEN, its publisher, for access to the proofs of their coming work. This may have been a reciprocal arrangement in that HARTLAUB may have seen proofs of HEUGLIN’s plates for his own works at a stage when they were still unnumbered.

FINSCH (1870) had earlier read a paper to the Zoological Society of London dealing with collections made in ‘north-eastern Abyssinia and the Bogos country’ by WILLIAM JESSE and this was being published in the *Transactions* of that Society, and issues of precedence exist between that and “Die Vögel Ost-Afrikas”, but these do not concern us directly here. Of the three African names that appear to be new in there one, *Lanius fallax*, is also introduced by HEUGLIN; both publications may date from June 1870. Was it not that this name is pre-dated by *Lanius aucheri* BONAPARTE, 1853, this issue of precedence would have to be carefully explored and a First Reviser selection might be required.

We supply, in Appendix III, a list of new generic names and species-group names that we believe were introduced by HEUGLIN in “Ornithologie Nordost-Afrika’s”.

Some bibliographic terms

While the term ‘part-work’ is readily understandable, the word ‘part’ in English is used in different ways. With “Ornithologie Nordost-Afrika’s” we have a book where the two volumes have their own

parts (“Abtheilungen”, outmoded for Abteilungen), of several hundred pages each, and we have the parts to which ZIMMER (1926) refers being issued, not singly, but, usually in pairs. These are what the publishers referred to as Lieferungen (singular Lieferung; in French livraison, a term also used in English bibliographies) and this term appeared in most of the reviews. We retain this term in preference to using ‘part’ in English because the term part could equally be used for the German terms Heft and Abtheilung. Indeed the latter term is relevant as each volume had the main text by Heuglin divided into two Abtheilungen, and for this we do use ‘part’. The term ‘issue’ is properly used, as we do, for each complete *published* part and here, as we shall see, an issue almost always comprised two Lieferungen, rarely more.

Printers set type for a number of pages, placing the type in a frame, and, after inking, one side after the other was printed, and the layout was such that when folded, cut and bound the pages would appear in numerical order (GASKELL, 1972). To print an octavo work, and the *Ornithologie Nordost-Afrika*'s is an octavo work, the sheet would have eight leaves printed on each side and would thus yield 16 printed pages. This is referred to as a signature (also known less ambiguously as gatherings; German: Bögen; in French feuilles or cahiers). These, probably folded but not cut or trimmed, the printers would have delivered to the publishers (GASKELL, 1972). Consequently any issue would be made up of one or more signatures (with, where necessary, a ‘short signature’ being used to achieve the desired cut-off point). At this period in printing history booksellers received these works unbound. The purchaser could check that no numbered signature seemed to be missing. The binder might then receive them in the order of publication but this might not be the recommended sequence for binding.

So while signatures were numbered, in this work in the right hand corner at the foot of their first page (except for the first one in any series which was often considered not to need a number), it was sometimes necessary to signal a major difference in the make-up of the work and signature numbering might change from Arabic to Roman numerals; letters were also used in place of numbers (in the 18th century letters were the norm not numbers).

By the mid 19th century it was common practice to sell books as part-works. These allowed purchase by subscription spreading a buyer's costs and allowed the printer to print that, and then take down that type and set the next part, permitting some economy in the printer's purchase of type. In this process it was usual for the printer to provide some kind of wrapper with each part: most were printed with the title of the work and sometimes with a date of publication of the

part and even occasionally further details on what the wrapper contained (GASKELL, 1972). It was not unusual that some part of this information was added by hand to the printed text. Thus a part number might be written in, in a space foreseen for that, and a date of perhaps three digits, such as 187, might have a 0 or a 1 or 2 written in. Wrappers served as a temporary folder or binding and they helped the owner know that nothing had been left out and the binder to begin ordering the pages for binding – although binding instructions were usually necessary to place content with page numbers that differed from the main text and to place the plates. Binding was usually left to the buyer to purchase at a cost and a degree of elaborateness dictated by taste and budget (GASKELL, 1972).

Methodology

We have inspected and compared information from six complete copies, two from Vienna (The “Emperor copy” in the Austrian National Library and the copy in the library of the bird collection of the Natural History Museum), two in the Natural History Museum, Tring (the ROTHSCHILD copy and the SHELLEY copy), and one copy each from Naturalis, Leiden, and the Zoological Research Museum A. Koenig, Bonn. (We have additional information from two copies from the Library of the Taylor Institution, University of Oxford, and from the Library of the University of Illinois). We carefully examined the pagination and the signature numbers and other clues that might help us to determine the composition of issues, such as apparent changes between portions of the volumes in terms of paper quality or colour.

To obtain information on publication dates, additional to those available to ZIMMER (1926), we relied mainly on the *Archiv für Naturgeschichte* for the years 1868 to 1875 but also consulted the *Börsenblatt des Deutschen Buchhandels* (1868–1875), although the set we had access to was lacking information in the second half of 1870. We have also drawn on an unpublished bibliographic card file created by CHARLES W. RICHMOND as he worked on what appeared in microfiche form as “The RICHMOND index to genera and species of birds” (RICHMOND 1992). These quite separate, unpublished cards (herein ‘RICHMOND MS.’) can be consulted with the permission of the Division of Birds of the United States National Museum of Natural History, Washington, D.C.

Our first task was to prepare a collation of the work and to associate the available information to a specific location in that collation. Having done this we set out to determine whether Lieferungen were con-

sistent in size as regards the number of signatures, and whether issues were consistent as to the number of Lieferungen included.

Bibliographic details of *Ornithologie Nordost-Afrika's*: text

The only detailed bibliographic description for HEUGLIN's "*Ornithologie Nordost-Afrika's*" available is that provided by ZIMMER (1926: 301–302), who included what he knew of its dates of issue. He wrote that there were 57 parts and that the "actual dates of publication appear to be indeterminable".

A Prospectus for this work, dated November 1868, was distributed during a meeting of the board of the German Ornithological Society and it was announced that it would be loosely inserted in one issue of the *Journal für Ornithologie* (CABANIS 1869B: 67; RICHMOND MS.). The prospectus stated that issues would be of two or three Bögen (signatures) and two plates (RICHMOND MS.). HARTLAUB (1869: 111) indicated that 15 Lieferungen were to be expected with 50 coloured plates, and on December 2, 1868 the *Börsenblatt* (1868: 279) announced a work comprising 15 Lieferungen with 30 coloured plates. No doubt either the '30' or the '50' is a typographical error. In the end there were 57 Lieferungen and 52 plates including the map; so the text evidently expanded well beyond its original predicted size.

Volume 1, containing text pp. 1–851 issued as 23 Lieferungen, spread over 9 or more issues. The first 11 made up Part I of the volume, which has its own title page (saying "Ausgegeben am 1. November 1869" [= issued 1 November 1869]), and ended at p. 416. With Lieferungen 9 to 11 came the Vorwort to this volume (HARTLAUB 1870: 11), signed "Ober-Türkheim (Württemberg), im October 1869", thus corroborating the date on the title page. The Vorwort is pp. [V]–XII and bound after it come 4 unnumbered pages dated October 1869 including a list of subscribers and confirmation that the first part of this volume is completed. The later Einleitung is bound in next.

The second Part of this volume, also with its own title page (saying "Abgeschlossen den 1. Juni 1871" [= finished 1 June 1871]), and made up of Lieferungen 12 to 23, took the pagination to p. 851 with the verso of that page blank. HARTLAUB (1872: 11) reporting on parts 18 to 23 as received in 1871, wrote "Der erste Band schliesst mit S. 850" [= the first volume ends with page 850]; this virtually corroborates the 1871 date on this title page. At the time this appeared volume 1 probably still lacked some of its plates. It certainly also lacked the Einleitung [= Introduction],

which is placed, as one would expect, before the text for the first half. This, an Introduction to the whole of HEUGLIN's text, was published in bits, beginning with its first 16 pages in 1874 in Lieferungen 46/47 as is evident from the "Notiz für den Buchbinder" [= Notice for the bookbinder], and these Lieferungen appeared after HEUGLIN's main text for the work running through to p. 1512, in Lieferungen 42/43, and part of the 'Nachträge' [= Amendments], had already been issued.

Volume 2, contains pp. 853–1512 as well as the 'Nachträge und Berichtigungen' [= Amendments and Corrigenda], of some 200 pages, and the Index. The main work is again divided into two parts; the first comprises pp. 853–1251 (the latter has the verso blank), and is preceded by a title page, saying "Ausgegeben am 1. April 1873" [= Issued 1 April 1873], and followed by a title page to the Zweite Abtheilung, saying "Ausgegeben am 31. October 1873" [= issued 31 October 1873] and this part continues to the middle of p. 1511, after which a page and a half of "Nachschrift" [= postscript] is added ending the volume on p. 1512 (thus having a short last signature of just 4 pages). ZIMMER (1926) reported that HEUGLIN's main text, finishing on p. 1512, all appeared by the end of 1873 and that that year's output also included pages from 917 onwards, whereas PELZELN (1873, 1874) referring to the Lieferungen, which he consistently presents as pairs, as 'Doppel-Hefte', reported that 1872 saw the Lieferungen completed up to numbers 30/31 including the Charadriadae [sic] and the Dromadidae, and thus to the end of signature 66 on page 1044. From there to page 1512 he implicitly accepted from 1873. A third part follows with a fresh title page: the 'Nachträge und Berichtigungen' which adds "Mit Beiträgen von Dr. O. FINSCH" [= With contributions from Dr. O. FINSCH]; this is dated 1871. The pages carry Roman numerals from I–CCIX, followed by Zusätze [= Addenda], pages CCXI–CCXXXVIII, and two indexes (genera and species) with page numbers CCXXXIX to CCCXXV. The 1871 title page of the "Nachträge und Berichtigungen" is chronologically out of place; this is because this commentary began to appear well before the work itself was complete. In fact 1871 is itself incorrect: the evidence suggests that the first 48 pages were part of Lieferungen 24/25 and appeared in 1872 (PELZELN 1873: 18): but these still chronologically preceded pages 917–1512 of the main text.

We shall have more to report from the reviews of HARTLAUB and PELZELN, and others, in our section on dating the issues, but all but one of the issues seem to have comprised two Lieferungen and we believe 28 issues sufficed for the 57 Lieferungen.

The sequence of the main text divides the birds into eight orders (Accipitres, Passeres, Scansores,

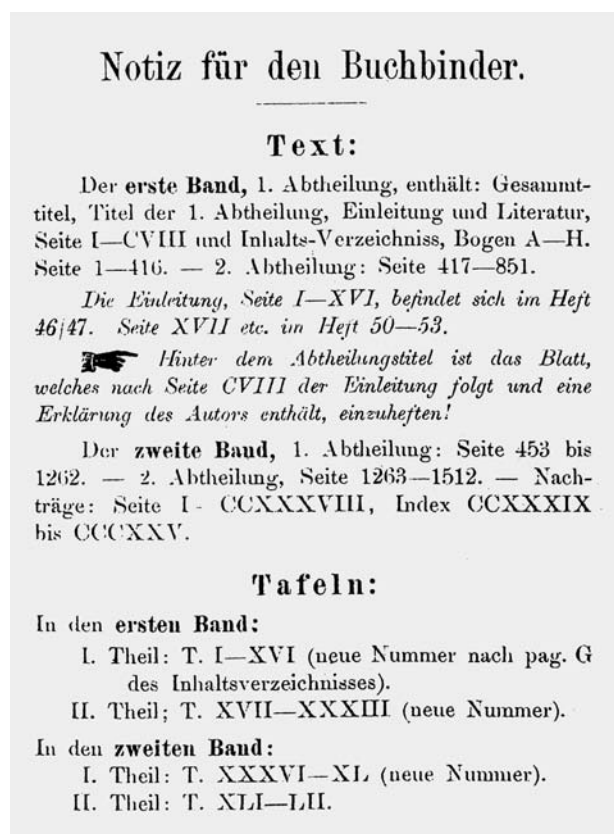


Fig. 1. Notice to the book binders, giving information on the contents of the two volumes as well as on the issues in which the introduction (Einleitung) appeared.

Columbae, Gallinae, Struthiones, Grallae, and Natatores); within these they are arranged in families.

Here, we have an Einleitung (pages I—CVIII), prepared and published after the main text but to be bound before it. It was followed by an un-numbered page with a statement by “Der Verfasser” (“the author”) dated “Stuttgart, im November 1874”. The Index (“Inhaltsverzeichniss”) refers to this as “Schlussbemerkungen CIX”, i.e. the Conclusions. In the Einleitung, which, for the binder, needed distinguishing so that it would be placed near the front of volume 1, the printers used successive signature letters instead of signature numbers. The “Nachträge und Berichtigungen”, included in volume 2, continues the numbered signatures but the pages have Roman numerals.

In a long part-work of this kind it would be unusual to include a short signature in a Lieferung, so that where one occurs a reason ought to be apparent. We checked signature length and found the following short signatures (i) signature 54, pp. 849—852 (4 pp., 1/4 signature); (ii) signature 82, pp. 1253—1262 (10 pp.), (iii) signature 96, pp. 1503—1512 (10 pp.), and (iv) signature 15, CCXXV—CCXXVIII (4 pp.). For each of these a reason is obvious.

In the Leiden set we found a notice to the binders (see Fig. 1) which contains information specifying the

Table 1. Publication year for pages and the respective issues (Lieferungen) of “Ornithologie Nordost-Afrika’s”.

Year	Content (pp.)	Lieferungen
1868	1–64	1–2
1869	65–416 and the Vorwort (pp. [v]–xii)	3–11
1870	417–656	12–17
1871	657–852	18–23
1872	853–1044 and Nachträge und Berichtigungen I—XLVIII	24–31
1873	1045 to 1512; and Nachträge und Berichtigungen XLIX—CCXXXVII	32–43
1874	everything remaining including the Einleitung and the Index.	44–57

issues in which the Einleitung appeared. Finally in the Vienna copy a handwritten note from PELZELN helped us to date Lieferungen 40 and 41 and to verify their pagination.

Sources agree that pp. 1–64 made up the first two Lieferungen and that these were issued together, and here each Lieferung contained two 16-page signatures.

The details mentioned in reviews, and shown in our Appendix I, demonstrate that Lieferungen normally comprised two signatures (32 pp.), but occasionally three were included (as predicted in the Prospectus). This occurred within Lieferungen 7 to 11 which totalled 224 pages so that it would appear that three signatures were allotted to four of these five Lieferungen. Some reviewers refer to issues of 64 pp. (and possibly more) as ‘Doppellieferungen’ (CABANIS, 1869c, 1869d, 1869e, 1870a, 1871c; PELZELN, 1874) ‘Doppel-Lieferungen’, (CABANIS, 1871a, 1871b, 1872a, 1872b), ‘Doppelhefte’ (PELZELN, 1873) or simply Lieferung (CABANIS, 1873a).

Before turning to the plates we now tabulate the output of text pages each year which the evidence supports (Table 1):

The evidence supporting this table is presented in Appendix I, where we also provide indications of pagination per Lieferung, where possible, and mention the signatures of text that were involved. A few qualifications are needed. Pages 1–64 may date from 1869 as suggested by ZIMMER (1926), but we are convinced by HARTLAUB (1869) who mentioned pp. 1–64 (which ZIMMER considered Lieferungen 1 and 2) and listed the subjects of the four plates. However, the publisher recalled booksellers’ surplus stock of Lieferungen 1 & 2 on May 28, 1869 (ANONYMOUS, 1869a: 1702) and then announced their availability, or perhaps reissue, with Lieferungen 3 & 4 in July 1869 (ANONYMOUS, 1869b: [advertisement no 36609]) an announcement which may have been misread as signalling the first availability of Lieferungen 1 and 2. ZIMMER seems to have miscopied page 192 as 142 (which is not the last page of its signature); but (ANONYMOUS, 1869b) gave p. 192, which, taking account of the usual number of

pages per issue, is much more logical. Pages 917 to 1044 were dated from 1873 by ZIMMER, but he did not refer to the *Archiv für Naturgeschichte* where the relevant Lieferung numbers are to be found. Finally, while PELZELN (1875) reported completion through to Lieferung 57, this, although credible, cannot be substantiated by other evidence: except as regards Lieferungen 48/49, which we believe to have been the fourth and last issue of parts of the “Nachträge und Berichtigungen” [Amendments and Corrigenda]. This was announced on November 2, 1874 (ANONYMOUS, 1874: 253) and that might suggest that the remaining issues only appeared in 1875; however these only concern the Einleitung and thus any necessary future date correction will not have an impact on a name in the main text. And, as we shall show below, all the plates are accounted for in the years 1868 to 1874.

The evidence suggests that issues normally comprised 64 pages, or Doppellieferungen (CABANIS, 1869c, 1869e, 1870a, 1870b, 1871b, 1871c, 1872a, 1872b, 1873a). However, Lieferungen were not always 32 pages, sometimes three sixteen-page signatures were grouped rather than two. Our understanding of the pagination per issue is imperfect; it is sometimes possible to be sure where one issue started or finished but this is not always so, and that is why we can offer reliability only at the level of year dates. And, in this context, remember that plates, captioned with scientific names (sometimes new names), could and sometimes did, appear before the relevant texts and vice versa.

We have located no report of comparing the original pages 1–64 with the ‘reissues’ in June or July 1869; the recall notice was addressed only to booksellers and it may be that there were enough copies returned to meet demand without a need to set up type again for a reprint.

Bibliographic details of *Ornithologie Nordost-Afrika's*: plates

HEUGLIN (pp. G and H) listed 52 plates but the last of these was his map which was reported as issued with the Vorwort to volume 1. Of the 52 plates, plates 1–41 are of birds, depicting 63 species, and 42 to 51 are of eggs and illustrate the eggs of 62 species. The map is bound in last.

The information on the appearance of the plates seems incomplete, confusing and contradictory – until the information in all the pages of the *Archiv für Naturgeschichte* (HARTLAUB, 1869, 1870, 1871, 1872; PELZELN, 1873, 1874, 1875) is added to the mix. It is necessary to say ‘all the pages’ because the first re-

Table 2. Publication dates for plates and the Lieferungen with which they were issued.

Year	Plate content (New Nos.)	Source(s)	Lieferungen
1868	1, 3, 29, 31	HARTLAUB (1869: 111)	1–2
1869	5, 10, 15, 17, 18, 19, 24, 32, 33, 35	HARTLAUB (1870: 10–11, 28–38)	3–11
1870	6, 11, 12, 22, 27, 30	HARTLAUB (1871: 12, 29–37)	12–17
1871	16, 20, 23, 26, 38	HARTLAUB (1872: 11, 32–40)	18–23
1872	2, 4, 14, 21	PELZELN (1873: 18, 25, 30, 31, 41, 54)	24–31
1873	8, 9	PELZELN (1874: 24, 53)	32–41
1874	7, 13, 25, 28, 34, 36, 37, 39, 40, 41	PELZELN (1875: 14, 30–52)	[42–43], 44–57

mark made by these authors, under ‘Afrika’, is usually not where the plates are mentioned (by number or subject). Once all the information is extracted we have information for 31 plates of birds, not eggs, and reason – by exception – to assume that the last ten appeared in 1874.

In Appendix II we list plates 1 to 41 (these being HEUGLIN’s ‘new’ numbers), along with other numbers used for them, and detail their content as well as modern scientific names for them (and an indication of which are in synonymy), and we include the page numbers on which each subject is discussed in the text. We do not include plates that we believe were created but not issued.

In the short table below (Table 2) we give only HEUGLIN’s new numbers, to check the sources we list the longer Appendix will be needed as there we give both old and new numbers – all converted from the Roman numerals which Heuglin used.

There is some contradiction between the various reviewers about plates seen, which suggests that sometimes plates were supplied with a given issue of text, specified in Lieferungen or pages, but not always. While we could speculate on each inconsistency this would not resolve the conflicts and, as regards the plates, we feel it is best to rely on the information from the *Archiv für Naturgeschichte* despite the fact that we have evidence from two other sources that Lieferungen 43 and 44 appeared in 1873, and, as we do not know which plates accompanied that issue, we have to assume here that all remaining plates appeared in 1874.

However, as well as some lasting confusion there is corroboration for the year of issue of over half of the bird plates (23/41). It will be recalled that ZIMMER (1926) mentioned his sources and that these did not include the *Archiv für Naturgeschichte*, thus where ZIMMER mentioned a plate and it is also mentioned in the *Archiv für Naturgeschichte* there is the potential for corroboration. It should be noted that in ZIMMER’s plate listings, all of which mention HEUGLIN’s

‘old numbers’, he listed plate II twice (and a third time with a query). Because we know the subjects of the four plates in Lieferungen 1 & 2 from HARTLAUB (1869), we can state that ZIMMER should here have reported plates I, III, XXIV and XXVI. ZIMMER mentioned 23 plates and we found corroboration for 17 or more of them (the ‘more’, four of them, come from resolving the conflict between HARTLAUB’s 1868 date for those issued with Lieferungen 1 and 2, compared to 1869 given by ZIMMER, and at the same time, sorting out correctly which those plates were). This makes 21 and leaves two plates, to make 23, where the information in the *Archiv für Naturgeschichte* disagrees with ZIMMER; these relate to pll. 14, and 21 both of which ZIMMER dated 1873 (citing Lieferungen 28/43) while PELZELN (1873) dated both from 1872. If one accepts that these two plates appeared with Lieferungen 28/29 or 30/31 and that these could have been in 1872, then the apparent disagreement is resolved; this we believe is the correct understanding and we are comfortable relying on the more complete information in the *Archiv für Naturgeschichte*.

Some plate numbers were overprinted but others seem only to be found corrected by hand, which would have been possible for anyone after the plate list appeared in 1874; such corrections were probably made by buyers once the work was complete. In the copies examined no plates with the ‘old numbers’ 5, 29, 31, 32, 34–36, 41 and 44–47 are to be found: these may have been assigned numbers that were changed before they were printed, but at least ‘5’, a very early number in the series, may have been printed and suppressed. In addition originally mis-numbered plates can be found; the old number 19 is to be seen, both on new plate 24, depicting *Hyphantornis atrogularis* and on new plate 25, illustrating the heads of four estrildid finches and a serin (and yet HEUGLIN’s index gives the old number of the latter as 21b, a number not to be found in the text or in the reviews). In seven species accounts there is no mention of a relevant plate (in Appendix II these are marked ‘no number’ in the appropriate column); all seven of these appeared in plates some time after their texts had been published, and it seems clear that late decisions were made to add these illustrations.

Plates are particularly important in relation to names that appeared on plates which were issued before the text descriptions. Of the 63 species depicted just three depictions are undoubtedly of newly-named taxa: *Saxicola scotocerca* (old pl. No. 12b); *Elminia longicauda minor* (old pl. No. 15) – an early trinomial name; and *Francolinus pilcatus* [sic] (old pl. No. 29), a name first used, spelled *pileatus*, by SMITH (1838), here HEUGLIN believed his specimen(s) to represent a new species, and described it and named it as *Francolinus Schoanus*, but by the time his text appeared

he must have decided that it was only minimally different from SMITH’s species. Subsequently, it has been widely accepted that it is different enough to deserve the name *schoanus* which is used at subspecific level. Two more names, *Saxicola frenata* (old pl. No. 12a) and *Psittacus citreicapillus* (old pl. No. 26) could be new and are discussed below.

The earlier of the two usages seems to be resolvable based on the evidence we have assembled; only one date from the plate and two from their texts:

Elminia longicauda minor dates from the plate, issued with Lieferungen 5 and 6 in 1869 (ZIMMER, 1926; HARTLAUB, 1870: 32); the text (p. 446) was published in 1870 (ZIMMER, 1926).

Saxicola scotocerca dates from the text (p. 363) in 1869 (ZIMMER, 1926); the plate appeared no earlier than 1872 (PELZELN, 1873: 41).

Francolinus schoanus dates from the text (p. 891) in 1872 (PELZELN, 1873: 64; ZIMMER 1926); the plate probably appeared only in 1874 (PELZELN, 1875: 46). None of these cases would need review if the plates we list for 1874 were actually published later or in 1873.

Saxicola frenata; could date from the text (pp 345–346), but as we yet do not know the month’s date, publication has to be taken as 31 December 1869 (I.C.Z.N. 1999: Art. Art. 21.3.2), and thus is antedated by HEUGLIN (1869b: 158) of May 1869. It is unlikely the precedence of the May 1869 paper will be reversed. The plate was issued in 1874.

Psittacus citreicapillus; the plate dates from 31 December 1868 (I.C.Z.N. 1999: Art. Art. 21.3.2), based on HARTLAUB (1869: 111). No month’s dates are yet available for “*Die Papageien, monographisch bearbeitet*” (FINSCH 1868), where the species is described as *Pionias citrinocapillus*. So both must be dated from 31 December 1868 and the case is open, until more details are retrieved. The text dates from 1871 and can be disregarded. The name used there changed already to FINSCH’s name *Pionias citrinocapillus* and refers to the original description. Although both works must be attributed the same date the odds favour FINSCH’s description as having appeared first, because the HARTLAUB date is not corroborated; we therefore act as First Revisers and select FINSCH’s name as the prior name and of course we attribute it to FINSCH.

Conclusions

That the make-up and timing of publication of this work has been insufficiently understood for so long seems to be largely due to a failure to check the *Archiv für Naturgeschichte* both by ZIMMER (1926) and by later authors who have used mistaken dates (e.g.

PETERS, 1934), doubtless sometimes because such authors did not read German easily. However, conflicting information apparent from ZIMMER (1926) must also have played a role. It seems that such conflicts spring from the probable late arrival in England of Lieferungen 1 and 2, from a failure of reviewers to mention the pagination of each set of Lieferungen and to separate the different issues by their time of arrival within the year (the cause of the uncertainty that remains) and from the misnumbering of certain plates.

Some of HEUGLIN's errors and omissions must be due to his north polar trips in 1870 (March to November) and 1871 (July to October) which also delayed the progress of the book (CABANIS, 1870b: 461) and we understand that HEUGLIN, lacking a permanent scientific position, also had financial problems, although he had some income from more popular works which he published (see SCHÜZ, 1972 and SCHMID, 1997). Financial constraints may well have led to the delayed issues of many plates compared to the Prospectus announcement of two with each Lieferung.

There remains a need to evaluate all the names that HEUGLIN introduced, including *nomina nova*, and to establish the existence and location of the type or types of each new name. We believe we have now provided a framework for dealing with that task and as a springboard provide our Appendix III as a basis for discussion and review.

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Appendix I

Detailed list of dates as currently available for issues (Lieferungen), signatures and pages.

Where we include page numbers and signature numbers in brackets after the Lieferungen numbers these have been carefully deduced from our evidence and are believed reliable.

1868

Lieferungen 1 and 2: HARTLAUB (1869: 111) reported pp. 1–64 'Accipitres'; although a Prospectus appeared in November 1868 with an issue of the *Journal für Ornithologie*. This does not seem to have been HARTLAUB's source as he could report the subjects of the 4 plates. *Journal für Ornithologie* does not report these until the March 1869 issue pp. 213 (also p. lxx). **NB** Stocks of Lieferungen 1 & 2 surplus to booksellers needs were recalled in May (advertisement in *Börsenblatt*, 1 June). This proves original distribution occurred earlier than May.

Conclusion: nothing is known to us which contradicts HARTLAUB (1869); thus pp. 1–64 dated from 31 Dec. 1868. Includes Accipitres only and only in part. The

reviewers for *The Ibis* may well have received their copy in early 1869.

1869

HARTLAUB (1870) gave no useful information; but his text in 1871 implies that Lieferungen 3 to 11 will have appeared in 1870. NEWTON (1870: 40 [ZR 6 for 1869]) reported that pp. 1–416 appeared and implied that this text included the families Caprimulgidae, Cypselidae, Nectariniidae, Hirundinidae and Sylviidae. As the latter are dealt with in pp. 239–372 this does not conflict.

NEWTON (1870: 127 [*The Ibis*]) reported the appearance of Lieferungen 1–11 but gave no pagination.

Lieferungen 3 and 4: Formally reported by HINRICHS (2 July 1869). Clearly this began with p. 65.

Lieferungen 5 and 6: in the *Journal für Ornithologie* of Sept. 1869 (p. 360) the appearance of pts. 3/4 and 5/6 is mentioned and the pagination given as 65–192. Page 192 is the last page of signature 12. Thus published no later than September 1869 (unless that issue of the *Journal für Ornithologie* was seriously late, and we know of no evidence suggesting this).

Lieferungen 7 and 8: we have found no specific information on this issue.

Lieferungen 9, 10 and 11: these included, or came out with, the Vorwort and the map (HARTLAUB 1870: 11). Availability of Lieferungen 1–11 advertised in *Börsenblatt* (3 Dec. 1869).

Conclusion: the evidence supports completion of part 11, and that ending on p. 416, in 1869. It is possible that Lieferungen 7 to 11 appeared together and accounted for pp. 193–416. This would amount to signatures 13–26 (preceded within the year by signatures 5 to 12). Overall pagination for the year 65–416 (possibly 1–416).

1870

SHARPE (1871: 28 [ZR 7 for 1870]) reported pp. 417 to 656 and referred to these ‘four parts’ by numbers 14–17; the previous issue of ZR took the pagination to p. 416, but did not offer Lieferung numbers.

SALVIN & SCLATER (1871: 442 [*The Ibis*]) reported Lieferungen 12–13, 14–15 and 16–17 and mentioned the contents as “the families Ampelidae, Muscicapidae, Laniidae, Corvidae, Sturnidae and the greater part of the Fringillidae’. As a last page, page 656, the end of signature 41, is consistent with this.

Lieferungen 12 and 13 [pp. 417–480; sig. 27–30]: HARTLAUB (1871: 12) reported these Lieferungen but, at this page, gave no useful information about content. Later on p. 65 he mentioned a new name on p. 192, a new nightjar described on pp. 129–130, and a new swift on pp. 143–144; and on p. 80 mentioned various *Saxicola* species described in pp. 345–363. FINSCH in the *Transactions of the Zool. Soc. London* (p. 312) under date of May 26, 1870, reported that Lieferungen 1–13 were available to him (this may or may not mean in print).

Lieferungen 14 and 15: *Journal für Ornithologie* 1870 p. 320 reported the appearance of Lieferungen 12 to 15. In *The Ibis* (1870), apud RICHMOND (Ms), these plus the next two Lieferungen comprised pp. 417–656 i.e. signatures 31 to 41.

Lieferungen 16 and 17: RICHMOND recorded that the *Journal für Ornithologie* for Jan. 1871 (p. 79) referred to the appearance of Lieferungen 14–17 but 16/17 had already been reported in *Journal für Ornithologie*

in Sept. (Nov.) 1870 on p. 461 although there just said to be ‘finished’.

Conclusion: Page 656, the end of signature 41, is consistent with the content reported above. Thus pages 417 to 656 (signatures 27–41) appeared this year.

1871

HARTLAUB (1872: 11) reported that ‘Heft’ [= Lieferung] 18 to 23 appeared including the Fringilliden, Musophagiden and Bucerotiden. The latter family, finished on p. 735, thus we can count the output to have concluded with signature 46, ending on p. 736.

SHARPE (1872: 36 [ZR 8 for 1871]) reported that pp. ‘627’ [error? for 657] – 851 appeared, in six Lieferungen and that the volume ends with the Columbiidae.

SALVIN & SCLATER (1872: 436 [*The Ibis*]) reported that Lieferungen 18, 19 to 30, 31 appeared, but that ‘as the parts are not dated’ what appeared in 1872 could not be confirmed. Vol. 1 ends with (Doppel-) Lieferungen 22/23 and 24/25 which are the Appendix with notes by Finsch.

Lieferungen 18 and 19 [pp. 657–704; sig. 42–44]: reported that these were acknowledged in *Journal für Ornithologie* for Jan, 1871 (p. 79).

Lieferungen 20 and 21 [pp. 705–752; sig. 45–47]: reported that these were acknowledged in *Journal für Ornithologie* for May 1871 (p. 158).

Lieferungen 22 and 23 [pp. 753–852; sig. 48–54]: RICHMOND reported that these were acknowledged in *Journal für Ornithologie* for Sept. 1871 (p. 400) and also notes that Ibis reported Lieferungen 18–23 as being pp. 627 (error? for 657) to 851. Advertised in *Börsenblatt* (25 Jan. 1872) but almost certainly advertised (wrongly as Lieferungen 23 and 24) in the *Börsenblatt* (11 Nov. 1871).

Conclusion: it is reasonable to conclude pp. 657–852 (signatures 42 to 54) appeared this year. Signature 54 was just 4 pages long.

1872

PELZELN (1873: 18) detailed the receipt of and contents of Lieferungen 24–31 so that for these Lieferungen, taking signature details into account, we can be sure of the pagination of each of these 4 issues.

SHARPE (1873: 27 [ZR 9 for 1872]) reported pp. i–xlvi, 853–916 and stated that Lieferungen 24 and 25 contained an appendix on the Accipitres.

SCLATER & FINSCH (1873: 457 [*The Ibis*]) reported the appearance of pp. 853–1044 and contain the Gallinae, Struthionae and Grallae as far as *Dromas ardeola*.

Lieferungen 24 and 25 [pp. I–XLVIII; sig. 1–3]: Formally announced by HINRICHS (9 July 1872). The *Journal für Ornithologie* for March 1872 (p. 160) reported that the first part of the “Nachträge und Berichtigungen” had been issued, and SHARPE (1873: 27) referred to these two Lieferungen mentioning the Accipitres.

Lieferungen 26 and 27 [pp. 853–916; sig. 55–58]: The *Journal für Ornithologie* for July 1872 (p. 319) reported Doppel-Lieferungen 1 & 2 for volume 2. These two Lieferungen are the first Doppel-Lieferung. These Lieferungen picked up the main text again and included the Pteroclididae, Meleagrididae and Tetraonidae. These begin on p. 853 (start of signature 55) and as the Tetraonidae end on p. 924 must finish either at p. 900 or p. 916. The latter, the last page of signature 58, making a 64 pp. issue is the most likely.

Lieferungen 28 and 29 [pp. 917–980; sig. 59–62]: These, the second Doppel-Lieferung, included more Tetraonidae, Grallae, Otididae and Charadriidae. The paper stock changes colour at p. 981 (first page of signature 63). We conclude that this issue is another typical 64 page issue.

Lieferungen 30 and 31 [pp. 981–1044; sig. 63–66]: The *Journal für Ornithologie* for Sept 1872 (p. 400) reported Doppel-Lieferung 3. This included more Charadriidae and Dromadidae; thus from p. 981 with the differing paper, through to p. 1044 (end of signature 66) which agrees in leaving two more pages to come for the Dromadidae and with the pagination reported in *The Ibis*.

Conclusion: we may safely conclude that pp. 853–1044 (signatures 55 to 66) appeared this year.

1873

PELZELN (1874: 24) detailed the receipt and contents of Lieferungen 32–41 so that for these Lieferungen, taking signature details into account, we can be sure of the pagination of each of these 4 issues.

SHARPE (1874: 30 [ZR 10 for 1873]) reported that Lieferungen 28–43 appeared and comprised pp. 917–1512 and completed the work [though not the Nachträge]

In the *Journal für Ornithologie*, March 1873 (p. 159) Lieferungen 4 (p. 1045–1108) and 5 (1109–1172) are reported.

Lieferungen 32 and 33 [pp. 1045–1108; sig. 67–70]: These included the end of *Dromas*, the Ardeidae and part of the Ciconiidae (PELZELN 1874: 24). The Dromadidae end on p. 1047 thus this issue begins with p. 1045 (signature 67); the Ciconiidae begin on p. 1100 and end on p. 1121 so this issue ends on p. 1108, the last page of signature 70. Again a 64 page issue.

Lieferungen 34 and 35 [pp. 1109–1172; sig. 71–74]:

These included more Ciconiidae, Plataleidae, Tantalidae and some Scolopacidae (PELZELN 1874: 24). Begins on p. 1109 (see above) and ends at p. 1172 (*Journal für Ornithologie* (1873: 159); also 64 pages. Lieferungen 26–35 formally announced by HINRICHS (1 May 1873).

Lieferungen 36 and 37 [pp. 1173–1262; sig. 75–80]: These included more Scolopacidae, Rallidae and Gruidae (PELZELN 1874: 24). They begin on p. 1173 and seem to almost certainly end on p. 1262 (the Gruidae end on p. 1261), this is the last page of signature 80, which is a short signature of just ten pages, making a total issue of 90 pages.

Lieferungen 38 and 39 [pp. 1263–1358; sig. 81–86]: Formally announced by HINRICHS (10 October 1873). RICHMOND reported these Lieferungen from 1873 [card 1443]. These included Phoenicopteridae, Anatidae, Colymbidae and some Podicipidae (PELZELN, 1874: 24). The latter end on p. 1366. The content implies beginning on p. 1263 (page 1 of signature 81, and ending on p. 1358, the last page of signature 86; a total of 96 pages.

Lieferungen 40 and 41 [pp. 1359–1438; sig. 87–91]: These included more Podicipidae, Procellariidae and Laridae (PELZELN 1874: 24, 104). Beginning with signature 87 (on p. 1359) this issue was apparently 80 pages ending on p. 1438, which is just into the Sterninae, this is the last page of signature 90.

Conclusion: thanks to PELZELN (1874) completion through to p. 1438 is proved so the year saw the appearance of signatures 67 to 91.

1874

PELZELN (1875: 14) reported that the work was completed by a 57th Lieferung and thus inferred that Lieferungen 42 to 57 appeared this year. With little information to go upon, apart from that in the notice to the bookbinders, we have assumed that after Lieferungen 42–43 an issue was routinely planned to be of 64 pages, until the index which we have simply halved.

Lieferungen 42 and 43 [pp. 1439–1512; sig. 92–96 (96 being a short signature)]: Advertised in the *Börsenblatt* (13 April 1874); Lieferungen 40–43 formally announced by HINRICHS (8 May 1874). SHARPE (1874) had the pagination going to p. 1512 (thus ending with a short signature of 10 pages, signature 96). Thus the rest of the Laridae is included with the Phaethontidae, Plotidae and Pelecanidae; a 2-page Nachschrift is also included. 74 pp.

Lieferungen 44 and 45: no direct evidence; we presume these comprised pp. XLIX–CXII of the Nachträge und Berichtigungen (signatures 4 to 7 of that). 64 pp.

Lieferungen 46 and 47: the notice to the bookbinder states that these included pp. I–XVI of the Einleitung (signature A). We presume that pp. CXIII–CLX of the Nachträge und Berichtigungen (signatures 8 to 10) completed this issue. 64 pp.

Lieferungen 48 and 49: advertised in the *Börsenblatt* (2 Nov. 1874). We presume this was made up of pp. CLXI–CCXXIV (signatures 11 to 14) of the Nachträge und Berichtigungen, up to p. CCIX and the Zusätze from pp. CCXI to CCXXIV. 64 pp.

Lieferungen 50 and 51: the notice to the bookbinder makes clear that these Lieferungen held the Einleitung; here beginning with p. XVII. We presume that this issue ended with p. LXXX (thus being signatures B, C, D and E and making 64 pages).

Lieferungen 52 and 53: the notice to the bookbinder makes clear that these Lieferungen held the Einleitung. If our preceding assumptions are correct then this included pp. LXXXI–CVIII (signatures F and G or 28 pages plus a blank leaf) and also included the Inhaltsverzeichniss (pp. [A] to H; 8 pp.). Total: 38 pp.

Lieferungen 54 and 55: no direct evidence; presumably continuing from Lieferungen 48 and 49 and thus the rest of the Zusätze, pp. CCXXV–CCXXXVIII,

and the “Index der Genera und Subgenera” and the “Index der Species-Namen” (part), and thus in total pp. CCXXV–CCLXX (signatures 15–17 in the series begun for the Nachträge). Total 46 pp. – which is explained by signature 15 being a short signature of just 14 pages.

Lieferungen 56 and 57: no direct evidence. Presumably the remains of the Index and thus pp. CCLXXI–CCCXXXV (signatures 18–21 plus 1 extra leaf). Total 65 pp.

Conclusion: given that the final Lieferungen can really only have been indexes and will have contained no new descriptions it seems acceptable to consider that PELZELN was correct and that the work was completed in 1874. That it was not treated by SALVIN until the following year is probably just due to delivery time.

1875

SALVIN (1876: 36 [ZR 12 for 1875]) reported that Lieferungen 50–57 were issued completing the entire work. This late notice may simply relate to delayed delivery to England.

Appendix II (pp. 174–175)

Detailed plate list associating each plate with a Lieferung and year of issue. Numbers are given by HEUGLIN in Roman numerals. ¶ = no plate number given in the text; § footnote; ZIMMER (1926: 301) (whose given plate numbers are 'old numbers') listed pl. I, II, XXV and XXVI as issued with Lief. 1 and 2. HARTLAUB (1869) cited the subjects of the four plates and is best followed.

Name on the plate	Name in the plate list	Current scientific names	Plate nos.			Text page	Issued (livraisons and year)	
			New	Old	on plate		in text	Zimmer (1926)
<i>Falco semitorquatus</i>	<i>Falco semitorquatus</i>	<i>Pollhierax semitorquatus</i>	1	1	1	38	1/2 (1869)	1 (1868)
<i>Circæus zoniurus</i>	<i>Circæus zoniurus</i>	<i>Circæetus cinerascens</i>	3	3	3	86		1 (1868)
<i>Corythæx leucolophus</i>	<i>Turaco leucolophus</i>	<i>Turaco leucolophus</i>	29	24	24	703		1 (1868)
<i>Psittacus atricaepillus</i>	<i>Pionias atrino-capillus</i>	<i>Poicephalus flavifrons</i>	31	26	24	744	1/2 (1869)	1 (1868)
<i>Merops cyanophrys</i>	<i>Merops cyanophrys</i>	<i>Merops orientalis cyanophrys</i>	5	6	6	203	5/6 (1869)	? (1869)
<i>Catircus apicalis</i>	<i>Catircus apicalis</i>	<i>Schoenicola leucostriatus</i>	10	9	9	273	5/6 (1869)	? (1869)
<i>Bessomis Heuglinii</i>	<i>Bessomis Heuglinii</i>	<i>Cossypha heuglinii</i>	15	13	13	374	5/6 (1869)	? (1869)
<i>Elminia longicauda minor</i>	<i>Elminia longicauda minor</i>	<i>Elminia longicauda</i>	17	15	15	446	5/6 (1869)	? (1869)
<i>Muscicapa aquatica</i>	<i>Muscicapa aquatica</i>	<i>Muscicapa aquatica</i>	18	16	16	436	5/6 (1869)	? (1869)
<i>Muscicapa minima</i>	<i>Muscicapa minima</i>	<i>Muscicapa adusta minima</i>	18	16	16	435	5/6 (1869)	? (1869)
<i>Stenostira plumbea</i>	<i>Stenostira plumbea</i>	<i>Myiophanes plumbeus</i>	19	17	17	432	5/6 (1869)	? (1869)
<i>Hyphantornis atrigularis</i>	<i>Hyphantornis atrigularis</i>	<i>Ploceus heuglinii</i>	24	19	19	559	5/6 (1869)	? (1869)
<i>Pogoniorhynchus Rolletii</i>	<i>Pogoniorhynchus Rolletii</i>	<i>Lybius rolletii</i>	32	27	27	750		? (1869)
<i>Pogoniorhynchus leucocephalus</i>	<i>Pogoniorhynchus leucocephalus</i>	<i>Lybius leucocephalus</i>	32	27	27	754		? (1869)
<i>Pogoniorhynchus didematus</i>	<i>Pogoniorhynchus didematus</i>	<i>Trichotaema didemata</i>	32	27	27	759		? (1869)
<i>Bababula uropygialis</i>	<i>Megalaelma uropygialis</i>	<i>Pogonolus pusillus uropygialis</i>	33	28	28	761		? (1869)
<i>Francolinus Schlegelii</i>	<i>Francolinus Schlegelii</i>	<i>Francolinus schlegelii</i>	35	30	30	898	5/6 (1869)	? (1869)
<i>Atitica griseopygia</i>	<i>Hirundo griseopygia</i>	<i>Pseudhirundo griseopygia</i>	6	7	7	149	16/17 (1870)	12/13 (1870)
<i>Trichobis elegans</i>	<i>Trichobis elegans</i>	<i>Eremomela pusilla elegans</i>	11	10	10	286	12/15 (1870)	12/13 (1870)
<i>Eremomela griseo-flava</i>	<i>Eremomela griseo-flava</i>	<i>Eremomela icteropygialis griseo-flava</i>	12	11	11	284	12/15 (1870)	12/13 (1870)
<i>Hyphantornis haematocephalus</i>	<i>Hyphantornis haematocephalus</i>	<i>Quelea erythraps</i>	22	19a	19a	545		12/13 (1870)
<i>Geocoraphus modestus</i>	<i>Geocoraphus modestus</i>	<i>Galerida modesta</i>	27	23	23	691	12/15 (1870)	12/13 (1870)
<i>Schizornis personata</i>	<i>Schizornis personata</i>	<i>Corythaxoides personatus</i>	30	25b	25a	708	16/17 (1870)	12/13 (1870)
<i>Turdus pelios</i>	<i>Turdus icterorhynchus (= T. pelios)</i>	<i>Turdus pelios</i>	16	14	14	383	18/23 (1871)	18/23 (1871)
<i>Turdus olivaceus</i>	<i>Turdus olivaceus</i>	<i>Turdus olivaceus abyssinicus</i>	16	14	14	382	18/23 (1871)	18/23 (1871)
<i>Nigrita Arnaudii</i>	<i>Nigrita Arnaudii</i>	<i>Pseudonigrita arnaudii</i>	20	20	20	541		18/23 (1871)
<i>Hyphantornis intermedia</i>	<i>Hyphantornis intermedia</i>	<i>Ploceus intermedius</i>	23	18	18	550	18/23 (1871)	18/23 (1871)

<i>Hyphantornis taeniaptera</i>	<i>Hyphantornis taeniaptera</i>	<i>Ploceus taeniapterus</i>	23	18	18	18	18	18	554	18/23 (1871)	18/23 (1871)
<i>Hyphantornis vitellina</i>	<i>Hyphantornis vitellina</i>	<i>Ploceus vitellinus</i>	23	18	18	18	18	18	555	18/23 (1871)	18/23 (1871)
<i>Hyphantornis galbula</i>	<i>Hyphantornis galbula</i>	<i>Ploceus galbula</i>	23	18	18	18	18	18	557	18/23 (1871)	18/23 (1871)
<i>Hyphantornis Gueinii</i>	<i>Hyphantornis Gueinii</i>	<i>Ploceus baglafecht</i>	23	18	18	18	18	18	562	18/23 (1871)	18/23 (1871)
<i>Xanthodina dentata</i>	<i>Gymnaethis (Xanthodina) dentata</i>	<i>Gymnaethis dentata</i>	26	21a	21a	21	21	21	625		18/23 (1871)
<i>Xanthodina pygmaea</i>	<i>Gymnaethis pygmaea</i>	<i>Gymnaethis pygmaea</i>	26	21a	21a	21	21	21	627		18/23 (1871)
<i>Limnetes crassirostris</i>	<i>Hemiparna (Limnetes) crassirostris</i>	<i>Limnetes crassirostris</i>	38	33	33	33	33	33	994		18/23 (1871)
<i>Helotarsus ecaudatus</i>	<i>Helotarsus ecaudatus</i>	<i>Tenanthopus ecaudatus</i>	2	2	2	2	2	2	80	1/2 (1869) §	24/31 (1872)
<i>Noctua spilogastra</i>	<i>Noctua spilogastra</i>	<i>Athene noctua spilogastra</i>	4	4	4	4	4	4	119		24/31 (1872)
<i>Saxicola scotacera</i>	<i>Philothamma (Saxicola) scotacera</i>	<i>Ceromela scotacera</i>	14	12b	12b	12b	12b	12b	363	28/43 (1873)	24/31 (1872)
<i>Philagus melanorhynchus</i>	<i>Philagus melanorhynchus</i>	<i>Plocepasser mahali melanorhynchus</i>	21	21	21	21	21	21	538	28/43 (1873)	24/31 (1872)
<i>Cisticola Ayresii</i> (= <i>C. habessinica</i> Hgl.)	<i>Cisticola Ayresii</i>	<i>Cisticola ayresii</i>	8	8a	8a	8	8	8	272	28/43 (1873)	32/41 (1873)
<i>Cisticola jodopygia</i>	<i>Cisticola jodopygia</i>	<i>Cisticola brunescens</i>	8	8a	8a	8a	8a	8a	271	28/43 (1873)	32/41 (1873)
<i>Cisticola cinerascens</i>	<i>Cisticola semibarbata</i> (= <i>C. cinerascens</i>)	<i>Cisticola ruficeps scotapterus</i>	9	8b	8b	8b	8b	8b	264	28/43 (1873)	32/41 (1873)
<i>Cisticola pachyrhyncha</i>	<i>Cisticola pachyrhyncha</i> (= <i>C. valida</i>)	<i>Cisticola natalensis tonga</i>	7	7	7	7	7	7	263		42/57 (1874)
<i>Saxicola frenata</i>	<i>Saxicola frenata</i>	<i>Oenanthe boettae frenata</i>	13	12a	12a	12a	12a	12a	345		42/57 (1874)
<i>Orthospiza polyzona</i>	<i>Orthospiza polyzona</i>	<i>Orthospiza atricollis</i>	25	21b	19	21b	19	21b	598		42/57 (1874)
<i>Coccygus Ernesti</i>	<i>Coccygus Ernesti</i>	<i>Eschilia quartinia</i>	25	21b	19	21b	19	21b	607		42/57 (1874)
<i>Rhodopygia rhodopsis</i>	<i>Rhodopygia rhodopsis</i>	<i>Lagonosticta senegalata rhodopsis</i>	25	21b	19	21b	19	21b	610		42/57 (1874)
<i>Zonogastris lineata</i>	<i>Zonogastris lineata</i>	<i>Pytilia lineata</i>	25	21b	19	21b	19	21b	623		42/57 (1874)
<i>Crotophaga barbata</i>	<i>Crotophaga barbata</i>	<i>Serinus mozambicus barbatus</i>	25	21b	19	21b	19	21b	649		42/57 (1874)
<i>Georopis cordofanica</i>	<i>Georopis cordofanica</i>	<i>Mitrospiza cordofanica</i>	28	23b	23b	23b	23b	23b	687		42/57 (1874)
<i>Georopis erythropygus</i>	<i>Georopis erythropygus</i>	<i>Pharopis erythropygus</i>	28	23b	23b	23b	23b	23b	676		42/57 (1874)
<i>Francolinus icterorhynchus</i>	<i>Francolinus icterorhynchus</i>	<i>Francolinus icterorhynchus</i>	34	29	29	29	29	29	894		42/57 (1874)
<i>Francolinus pileatus</i> (Fr. schoanus, Hgl.)	<i>Francolinus pileatus</i> (= Fr. schoanus, Hgl.)	<i>Francolinus sephaena</i>	34	29	29	29	29	29	890		42/57 (1874)
<i>Otis Burchelli</i>	<i>Otis Burchelli</i>	<i>Neotis denhami (Burchelli)</i>	36	31	31	31	31	31	943		42/57 (1874)
<i>Otis Harlaubi</i>	<i>Otis Harlaubi</i>	<i>Lissotis harlaubi</i>	37	32	32	32	32	32	954		42/57 (1874)
<i>Charadrius damarensis</i>	<i>Charadrius damarensis</i>	<i>Charadrius asiaticus</i>	39	34	34	34	34	34	1018		42/57 (1874)
<i>Charadrius Geoffroyi</i>	<i>Charadrius Geoffroyi</i>	<i>Charadrius leschenaultii</i>	39	34	34	34	34	34	1020		42/57 (1874)
<i>Charadrius mongolicus</i>	<i>Charadrius mongolicus</i>	<i>Charadrius mongolus</i>	39	34	34	34	34	34	1023		42/57 (1874)
<i>Charadrius tricoloris</i>	<i>Charadrius tricoloris</i>	<i>Charadrius tricoloris</i>	39	34	34	34	34	34	1027		42/57 (1874)
<i>Charadrius marginatus</i>	<i>Charadrius marginatus</i>	<i>Charadrius marginatus</i>	39	34	34	34	34	34	1031		42/57 (1874)
<i>Charadrius pecuarius</i>	<i>Charadrius pecuarius</i>	<i>Charadrius pecuarius</i>	39	34	34	34	34	34	1033		42/57 (1874)
<i>Balaeniceps rex</i>	<i>Balaeniceps rex</i>	<i>Balaeniceps rex</i>	40	35	35	35	35	35	1095		42/57 (1874)
<i>Larus cachinnans</i>	<i>Larus cachinnans</i>	<i>Larus cachinnans</i>	41	36	36	36	36	36	1392		42/57 (1874)
<i>Larus Hemprichii</i>	<i>Larus Hemprichii</i>	<i>Larus hemprichii</i>	41	36	36	36	36	36	1399		42/57 (1874)

Appendix III

List of the new generic names and species-group names proposed as new by HEUGLIN in “Ornithologie Nord-ost-Afrika’s”.

Name Heuglin	Heuglin Orn NO-Africa		Choice of dates in “Vögel Nord-Ost. Afrikas”	
	Page	Plate No. (old numbers)	Date of text (year)	Date of plate (year)
<i>Caprimulgus inornatus</i>	129–130		1869	
<i>Cypselus caffer orientalis</i>	143		1869	
<i>Cypselus gularis</i>	143		1869	
<i>Cypselus affinis</i> var. <i>Cypselus</i> Horus „Hartl. & Finsch“	147		1869	
<i>Dacelo tscheliculentis</i> (sic!)	192		1869	
<i>Hirundo fuscicapilla</i>	154–155		1869	
<i>Hirundo domicella</i> „Hartl. & Finsch“	159		1869	
<i>Cotyle littoralis</i> Hempr. und Ehr.	166		1869	
<i>Drymoeca striolata</i>	262		1869	
<i>Acrocephalus arabicus</i>	289–290		1869	
<i>Acrocephalus obsoletus</i>	291–292		1869	
<i>Sylvia melanocephala minor</i>	303–304		1869	
<i>Pratincola semitorquata</i>	166		1869	
<i>Saxicola ferruginea</i>	345–346		1869	
<i>Saxicola Heuglinii</i> „Hartl. & Finsch“	346–347		1869	
<i>Saxicola Finschii</i>	350		1869	
<i>Saxicola modesta</i>	362–363		1869	
<i>Saxicola scotocerca</i>	363	14 (12b)	1869	1872
<i>Pycnonotus nigricans minor</i>	398–399		1869	
<i>Bradyornis minor</i>	430		1870	
<i>Stenostira schistacea</i>	433		1870	
<i>Elminia longicauda minor</i>	446–447	17 (15)	1870	1869
<i>Platystira orientalis</i>	449–453		1870	
<i>Malaconotus malzacii</i>	457		1870	
<i>Rhodophoneus</i> (by <i>Rhodophoneus</i> (<i>Dryoscopus</i>) <i>cruentatus</i> (Hemprich & Ehrenberg, 1828))	462		1870	
<i>Vidua paradisea orientalis</i>	583–585		1870	
<i>Spermestes punctata</i>	594		1870	
<i>Carpodacus uropygialis</i>	642		1870	
<i>Picus melanauchen</i>	808		1871	
<i>Picus balius</i>	810–811		1871	
<i>Francolinus schoanus</i>	891	34(29)	1872	1874
<i>Otis semitorquata</i>	958		1872	
<i>Hydrochelidon</i> (<i>Haliplana</i>) <i>somalensis</i>	1512		1873	
<i>Nectarinia fazoqlensis</i>	LXX		1873	
<i>Urorhipis</i> (by <i>Urorhipis rufifrons</i> (Rüppell, 1840))	LXXII		1873	
<i>Saxicola lithochroa</i>	CI		1873	
<i>Muscicapa planirostris</i>	CXIV		1873	
<i>Haplopyga coccineo-frenata</i>	CXXXVII		1873	
<i>Haplopyga</i> (by <i>Haplopyga coccineo-frenata</i> Heuglin, 1873)	CXXXVII		1873	
<i>Passer motitensis cardofanicus</i>	CXLI		1873	