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A SECOND EDITION OF *LEPIDOPTERA, RHOPALOCERES AND HETEROCERES*
BY HERMAN STRECKER, WITH NOTES ON THE FIRST EDITION AND SUPPLEMENTS

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ABSTRACT. The first edition of the book *Lepidoptera, Rhopaloceres and Heteroceres, Indigenous and Exotic* by F. H. Herman Strecker was originally published in 15 parts between 1872 and 1878. The first few parts were partially financed by Edward P. Boas, a banker in Reading, Pennsylvania. Contrary to popular accounts, Emily L. Morton was employed to color many of the plates for the first edition. Strecker suffered a great deal of criticism for his scathing remarks about other lepidopterists. Based on new evidence, the publication date of Part 15 is amended to 9 July 1878. Virtually overlooked in entomological literature, a rare second edition of the book was published as a single volume in 1879. At least five plates were ultimately reproduced for this edition using a photo-mechanical process with hand-coloring. Five signatures of letterpress were slightly revised for the second edition. The three supplements to the book are also discussed, including a one-page description, which is best treated as an addendum to the third supplement. Finally, a summary of the publication of *Rhopaloceres and Heteroceres*, including its supplements, is presented.

Additional key words: lithography, publication dates, wrappers

The book *Lepidoptera, Rhopaloceres and Heteroceres, Indigenous and Exotic* was originally issued in 15 parts (installments), each comprised of one hand-colored lithographic plate and several pages of accompanying letterpress. The author, lepidopterist Ferdinand H. Herman Strecker (1836–1901), initially planned to produce one part of the book per month over the course of a single year, but the project proved too difficult. It was ultimately published over a period of six years, from April 1872 to July 1878 (Brown 1964). Intended for more serious students of Lepidoptera, it included original descriptions, systematic lists, taxonomic discussions, and anecdotal observations. Two decades after the publication of the book had seemingly ceased, Strecker (1898, 1899, 1900a) issued three supplements without plates. A single page was also issued (Strecker 1900b), which is sometimes regarded as a fourth supplement.

The production of *Rhopaloceres and Heteroceres* (Strecker 1872–[1878]) was costly and time-consuming. Strecker, a stonemason and sculptor by trade, worked on the book mostly at night — by the light of an “old burner” — on the third floor of his home at 1325 Mineral Spring Road, Reading, Pennsylvania (Barber 1885, Anonymous 1888, Weiss 1953) (Fig. 1). The home still stands today, having long ago been converted into a tenement house. Due to financial constraints, Strecker was able to purchase only a single lithographic stone for the creation of the plates. After drawing and etching the figures for a given plate on the stone, he sent the stone to Philadelphia, where 300 copies of that print were struck (Anonymous 1888, 1901a; Weiss 1953). The stone was afterwards returned to Strecker to be scraped

clean and reused for the next plate. Strecker hand-colored the printed plates, which were combined with letterpress to complete each part of the book. All 300 copies of the book were supposedly sold, yet demand continued to increase. Because Strecker had destroyed his lithographic work after each plate was printed, it was reported that no more copies of the book could be issued (Anonymous 1888, 1901a). This popular narrative was repeated many times in obituaries and biographies of Strecker (e.g. Anonymous 1901b, Mengel 1902, Weiss 1953, Mallis 1971, Leach 2013). Nonetheless, I became aware of copies of *Rhopaloceres and Heteroceres* that are identified as a second edition, containing a preface dated “Nov., 1879.” I subsequently acquired an original copy of this edition (in original wrappers) for comparison against a first edition already in my possession. I also discovered additional information about the first edition and the supplements, including the fact that Strecker did not color all the plates of his book as he maintained.

METHODS

Copies of the first and second editions of *Rhopaloceres and Heteroceres*, as well as the supplements, were personally examined. These copies are deposited in my own library and the Library and Archives of the Field Museum of Natural History (Chicago, Illinois; FMNH). The copy of the first edition at FMNH includes the original front wrappers for all the parts as issued. Images were obtained of all the front and rear wrappers of a first edition at the Library of the Academy of Natural Sciences (Philadelphia, Pennsylvania; ANSP). Three online copies of the book

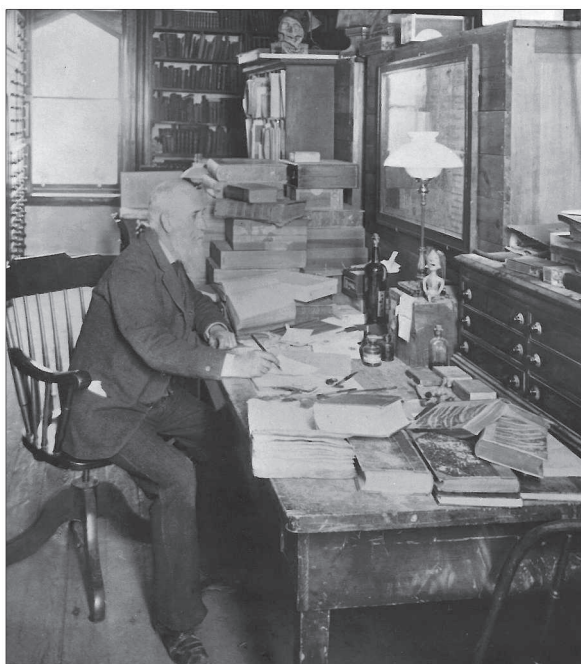


FIG. 1. F. H. Herman Strecker, c. 1895, at his desk on the third floor of his home, where he wrote *Rhopaloceres and Heteroceres* (FMNH).

were evaluated, and facts about two other copies were received from booksellers. Information was also obtained regarding a copy of the rare second edition in the possession of Eric H. Metzler. Previous studies by Griffin (1931), Oiticica (1946) and Brown (1964) were reviewed. Strecker's correspondence was studied for references to *Rhopaloceres and Heteroceres* (originals at FMNH; photocopies of most at McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, Gainesville, Florida). Lepidoptera specimens from Strecker's collection (FMNH) were examined and compared with figures in the book.

RESULTS

First edition. The 15 parts of the first edition of *Rhopaloceres and Heteroceres* were issued in colored paper wrappers (covers), with printed titles and price information. The color of the wrappers varied between copies. A comparison of wrappers associated with copies at FMNH and ANSP show only one difference: Part 9 is blue in the former and buff in the latter. Most wrappers were blue, buff, or yellow. Additional evidence, including a copy recently offered for sale (of which I received images), indicates that green and pink wrappers were also used.

Appearing on the verso of the front wrapper of Part 1, among seven advertisements, was an announcement from Strecker with the heading "To Publishers, &c.":

"Advertisements of Publishers, Taxidermists, dealers in specimens of Natural History, Public Lecturers, Bird Fanciers, &c., inserted on the cover and fly leaves of each number, at very low rates, as my object is not to make money in this instance, but merely to cover the expense of issuing this work. Parties choosing to avail themselves of this means of advertising will please address, HERMAN STRECKER, Box 111 Reading P. O., Berks Co., Pa."

One of the paid advertisements that Strecker included on this part was for the book *The Butterflies of North America* by William H. Edwards, who would later become a staunch critic of *Rhopaloceres and Heteroceres* (see below). After the first part, advertisements appeared only on the verso of the rear wrapper and were mostly for express shipping companies, which Strecker often employed to send and receive specimens.

The verso of the front wrapper of Parts 2 and 3 also included a "Notice" to subscribers:

"As none of us, unfortunately or otherwise, can always do as we please, I was unable, owing to adverse circumstances, to continue this work last year further than the first number, but I have now so arranged it as to be able to issue a part regularly each month.

"Subscribers who prefer to do so can remit the money for each part as they receive it, which will be in United States, 55 cents per part, inclusive of postage. As soon as I have subscribers sufficient to pay the extra expense of printing, I will add another plate, so I trust Lepidopterists and Naturalists generally will exert themselves to increase my subscription list, which is not at present as large as that of the London Times."

As Strecker stated, Part 2 was delayed for over a year after the publication of the first part. Although he promised to issue successive parts on a monthly basis, this was done only for Parts 3, 4, and 6, after which the parts appeared on an increasingly irregular basis (Brown 1964). Consequently, Strecker did not include the notice to subscribers after Part 2. The publisher's announcement was discontinued after Part 5. For Parts 12–15 it was advertised that the work was "Issued Quarterly," but this strategy failed as well.

Rear wrappers of Parts 2–15 included an ever-expanding list of Lepidoptera species that Strecker desired, with additional remarks:

"Of the following species I am anxious to obtain examples, either by exchange or purchase; any Naturalists having duplicates of any of them will confer a great favor by communicating with Herman Strecker. . . These are a few of the very many of the rarer species that I am eager to procure; of course there are numberless others from all parts of the world, equally desirable and coveted by me."

This list was greatly enlarged for Parts 14 and 15, when Strecker included an additional closing statement:

“Lepidoptera, native and exotic either on hand or can be obtained for clients at short notice. Coleoptera and other insects occasionally on hand and can always be obtained if ordered—particularly given on application by letter. I will also sell Insects on commission for persons having such to dispose of. I am always glad to exchange for any species of Lepidoptera not in my collection, or to obtain such by purchase if exchanging be not desirable.”

In addition to the price of “50 Cents” printed on the front wrapper, Parts 13–15 included the statement “In Europe, 2 Shillings.” Subscribers who wished to pay in advance could purchase a subscription for six dollars (Strecker 1872-[1878]). If an “adequate number” of subscribers was secured, Strecker planned to include two plates per part at the same price, but this was never realized. In a stand-alone advertisement that was issued after the completion of Part 4, Strecker announced that only a limited number of copies of each part were being printed, adding that “persons can remit the money as they receive the parts, or pay a year’s subscription in advance, as best may suit their convenience” (Strecker [1873]). Strecker’s correspondence (FMNH) suggests that most subscribers paid after they received each part.

Strecker wished to keep *Rhopaloceres* and *Heteroceres* within financial reach of most lepidopterists, but the inexpensive price of 55 cents per part (equivalent to \$11–13.50 in today’s economy) was not enough to cover production. As revealed in the preface for the second edition (see below), Edward P. Boas was credited as providing additional financial support for the first four parts of the first edition, after which the publication “began to pay for itself.” Edward Payson Boas (1840-1889) was born in Reading, Pennsylvania. Military records indicate that he served in the Army during the Civil War with the 20th Illinois Volunteer Infantry Regiment, Company G. Entering the military as a private in 1861, he quickly rose to the rank of captain. He was captured in 1862 and held at Libby Prison in Virginia, as well as a Confederate prison camp in South Carolina (Anonymous 1865, 1889). After the war he returned to Reading and worked in banking for many years, initially as the assistant cashier at the First National Bank in Reading, which was co-founded by his father, Augustus F. Boas, who was also the cashier. When Strecker began work on *Rhopaloceres* and *Heteroceres*, E. P. Boas was employed as cashier of the Reading Savings Bank, where his father was president. During the early 1870s Boas also served as a director of the newly opened Southern Pennsylvania Railroad (Poor 1872), which is ironic given that he was involved in a terrible accident on a nearby stretch of railroad about ten years earlier, when the train on which the 20th Illinois Volunteer Infantry Regiment was

traveling collided with another train heading in the opposite direction, killing four soldiers and injuring many others (Richards 1883). In late 1877 the Reading Savings Bank was driven into involuntary bankruptcy, partly as a result of mismanagement (Anonymous 1878a). A great scandal ensued and at least one investor reportedly committed suicide when his life savings were lost in the collapse (Anonymous 1878b). Shortly after, E. P. Boas was arrested and charged with embezzling over \$25,000 from the bank during his tenure as cashier (Anonymous 1877, 1878c, 1878d). Although Boas was not convicted, it is conceivable that some of the money used to keep *Rhopaloceres* and *Heteroceres* afloat was derived from ill-gotten gains.

Strecker acknowledged no help in the production of his book and claimed that the plates were “drawn, lithographed and even coloured” by himself (Strecker [1879]). However, Newcomb (1917) asserted that many plates were colored by Emily L. Morton (1841–1920), an insect collector and entomological artist who lived in Newburgh, New York. Except for a passing allusion to this claim by Walton (1921), Morton’s potential involvement in the production of *Rhopaloceres* and *Heteroceres* was ignored.

A review of Strecker’s correspondence at FMNH reveals that Morton was indeed hired to color plates for *Rhopaloceres* and *Heteroceres*. The earliest surviving communication is a card to Strecker, dated 6 October [1876], in which Morton advises Strecker that his “plates arrived safely,” promising to “return them colored in a few days.” This was apparently her first job coloring plates: “I have drawn and colored insects ever since I was ten years old but only for my own amusement, never before having know[n] any one who cared to pay to have them done” (13.ii.1877). Strecker sent completed pattern plates, which Morton used to color the new plates. “I have finished the plates and hope they will meet with your approbation,” she wrote. “I have copied them as exactly as possible from the plates you sent already colored . . .” (9.x.1876). She complimented Strecker’s lithographic work, noting that his plates were “most beautifully delineated, which greatly reduces the labor of coloring . . .” (ibid). Morton improved her coloring using real specimens: “Will you let me know whether you prefer my copying exactly from your colored plates or from the insects, when I have them?” (20.x.1876). She later added, “The instant I see the insect I know almost exactly what colors will imitate it best; but from a copy [I] have to mix sometimes half a dozen different colors, and even then not be able to get the right tint” (22.ii.1877). Morton was very careful to perform her work as Strecker directed, asking if he desired to have the figures “glazed

after they are painted or a little more highly colored, rendering the glazing unnecessary" (ibid.). She also was concerned that she was applying the correct amount of paint (3.x.1877).

Not only did Morton color plates for Parts 13–15 as they were issued, she also colored plates for new copies of Parts 1–12, which were needed to bring later subscribers up to date on the work. For Parts 14 and 15, Morton worked "all day for two or three months" (22.vii.1878), suggesting that she was probably the sole colorist for those parts. By then she found it much easier to "get the exact color" than when she first started, recognizing that the later versions of Plate 10 were only "a facsimile" of her first attempt (i.e. they were much improved), but admitted to Strecker that they "may not be exactly like yours" (ibid.). She stated that Part 15 was not easy, "taking longer to color than any except Nos 10 and 7 which are the most troublesome of the whole . . ." (3.xi.1878).

After Part 15 of *Rhopaloceres and Heteroceres* was issued, Morton advised Strecker, "If you want me to color more back numbers, you might send me forty or fifty sets and I will do them at my leisure, ten or twelve sets at a time, and you can send for them as you want them . . ." (22.vii.1878). Morton frequently mentioned sending "sets" of plates for all the parts issued up to that point. On 2 February 1879 she listed the inventory of all the uncolored plates to complete, from 1 to 15. This reveals that Strecker did not just issue the book as the parts were published, but filled many orders for previous parts during the entire production of the book and beyond. This process is analogous to the production of the three-volume book on North American butterflies by W. H. Edwards (Calhoun 2013), which was partially published contemporaneously with Strecker's work. It appears that Strecker grew weary of coloring the plates after Part 12 was published, thus Morton was hired to color the plates for Parts 13–15 and for all orders of previous parts of the first edition. Morton colored a surprising number of plates, including 117 in February 1877, 144 in October 1877, 230 in December 1877, 84 in March 1878, 244 in March 1878, and 149 in February 1879.

Morton was paid ten cents for each plate (about \$2.35 today), regardless of the number of figures, some of which were quite difficult to color. One particularly problematic figure was that of the African moth *Nudaurelia eblis* on Plate 14 (Strecker described this species in the book as *Bunaea eblis*). Comparing her version of this figure with that on the original pattern plate by Strecker, Morton reported, "I find much difficulty in putting the color on smoothly, and I don't think mine is quite as rich a brown" (15.x.1877).

Referring to this plate, she later added, "I found little difficulty in coloring the figures with [the] exception of *Bunaea Eblis* in which I could not make the paint work smoothly in burnt sienna, but finally succeeded in imitating the color almost exactly with scarlet lake, indian yellow & India ink, though even then it required always four and generally six coats of paint, to make it as dark as yours" (18.xii.1877). Because Morton did not have specimens of all the species portrayed, she "could not seem to hit the right shade" for some figures (22.ii.1877). She remarked to Strecker that the figure of *Battus loadamas copanae* (Reakirt) on Plate 8 (identified as *Papilio copanae*), "puzzles me very much in the green and I could not get the peculiar transparent green with which yours was colored" (ibid.).

In addition to receiving payment from Strecker, Morton requested complete sets of Parts 1–13. After receipt she confessed that it was the first work on Lepidoptera that she personally owned, and it was valued "very highly indeed" (22.ii.1877). While coloring plates for Part 14, she asked for a copy of the accompanying letterpress, noting that Strecker's descriptions "often state the exact color" (15.x.1877). Unfortunately, Strecker was sometimes tardy with payment, prompting Morton to complain that "it is disappointing to work so hard and wait so long after to be paid . . ." (7.vi.1878). Although she had previously asked to receive payment only after Strecker approved her work (11.i.1877), she later expected "to receive at least part of the bill," or else she would "feel not at all disposed to send in the finished numbers" (7.vi.1878). In 1878, Morton offered to personally create new plates for Strecker using the new "autographic process," a more cost-effective means of lithographic printing. Strecker did not take her up on the offer.

Morton considered Strecker to be a close friend, sending specimens for identification, purchasing insect pins from him, and often relating personal events. She visited Strecker at his home in Reading in May 1879, and admonished him the following month for being ill: "I cannot say [I] wonder at it — if you work all day with your hands and all night (or nearly) with your brain what else can be expected. You do not even rest on Sunday" (16.vi.1879). That year she lamented the death of the English entomologist William V. Andrews (1811–1878). During his residence in Brooklyn, New York, Andrews had helped Morton immensely in identifying insects, offering advice, and allowing the use of his library. This loss greatly decreased her "love for, and interest in Entomology" (12.ii.1879). On the recto of the rear wrappers for Parts 11–15 of the first edition of *Rhopaloceres and Heteroceres*, Strecker included an advertisement for Andrews as a "Purchasing Agent for



FIGS. 2–5. Features of the first and second editions of *Rhopaloceres and Heteroceres*. **2.** Publication date from the wrapper of the second edition (top), and portion of the preface for same edition. Inset is the date given in the preface. **3.** Detail of Plate 10 from the first (left) and second editions. Note gray background on the plate for the second edition (red arrow) and poor quality coloring of the figures. **4.** Dorsal figure of male *Lycaena rubidus sirius* (W. H. Edwards) from Pl. 10 of the first (left) and second editions. This figure is likely based on an existing specimen from Strecker's collection (FMNH), labeled "c" from Colorado. **5.** Comparison of letterpress between the first and second editions: **a**, imperfect "G" from pg. 5 of first edition; **b**, corrected "G" from same page in the second edition; **c**, **d**, defective "w" and imperfect "s" from pg. 89 of both editions.

Books and Apparatus in connection with Natural History."

The last reference to Morton doing coloring work for Strecker is a card dated 27 June 1879, when she advised that she had just sent "the finished plates." I found no direct evidence that she knowingly completed any plates for the second edition, but at least some of those previously sent to Strecker were probably used for that purpose. Despite the careful attention of Strecker and Morton, Walton (1921) evaluated the plates of *Rhopaloceres and Heteroceres* as "good but not of the very highest quality . . . The coloring also is of mediocre quality and this is particularly noticeable in some of the larger moths . . ." Although most of the species are readily identifiable, the quality of the figures is irregular, perhaps illustrating the differences between those colored by Strecker and Morton.

In addition to his work on the plates, it was reported that Strecker also set the type for the letterpress of *Rhopaloceres and Heteroceres* (Leach 2013), possibly based on the claim by Barber (1888) that Strecker had "set up the type and done the printing" for his earlier works." However, I found no evidence that he had set the type for his book and he took credit only for the plates (Strecker [1879]). Each part was printed by

Owen's Steam Book and Job Printing Office, operated by Benjamin F. Owen (1831–1917) on Court Street in Reading. With the exception of his time in the Union Army during the Civil War, Owen operated print shops in Reading beginning in 1857 (Anonymous 1917). He was also responsible for printing the supplements of *Rhopaloceres and Heteroceres*, as well as Strecker's other book, *Butterflies and Moths of North America* (Strecker 1878).

Strecker ([1879]) admitted that he suffered "adverse criticism" during the production of the first edition. This mostly stemmed from his abrasive comments about other lepidopterists and habit of redescribing known taxa. Exposing the tremendous conflicts that had arisen between several nineteenth century lepidopterists, Strecker brazenly attacked Samuel H. Scudder, Augustus R. Grote, and William Saunders within the pages of his book. Grote later responded to these insults, accusing Strecker of "casting great reproach upon Entomology," adding "You must know of course how you misrepresent me and I spare myself any written defense in consequence. . . while you cannot injure me you are hurting interests which we both have at heart" (3.iv.1878, FMNH). Because of Strecker's "vulgar abuse of Grote," the Harvard entomologist

Hermann A. Hagen advised Strecker that he would have nothing to do with him. Pastor and lepidopterist George D. Hulst cautioned Strecker: "I am sorry you go after Messrs. Grote & Scudder to such a length, I think it a great mistake" (28.ii.1876, FMNH). After receiving a later installment of the book, Hulst brusquely stated that he did not wish to see "personalities in a scientific work" (21.v.1878, FMNH). Even Strecker's staunch ally, the New York stock broker and entomologist Berthold Neumoegen (or Neumögen), was troubled by the "old bickering at Grote" (22.iii.1878, FMNH). Saunders (1873) accused Strecker of launching "a most uncalled for and ungentlemanly attack" against him. Never shying away from further controversy, Strecker republished Saunders' comments in Part 5 of *Rhopaloceres and Heteroceres*, adding a disparaging rebuttal while calling Saunders' remarks a "splendid and entirely unexpected advertisement of this work." William H. Edwards asked Strecker why subscribers should "be bothered with your grievances against Mr. Saunders" and condemned the attack on Scudder as "entirely uncalled for," asserting that a scientific publication "ought not to be a vehicle for everybody's private grief" (18.ix.1873, FMNH). In his review of Part 14 of *Rhopaloceres and Heteroceres*, Saunders (1878) expressed his regret that Strecker's work "should be marred by such gross personal abuse as he so frequently indulges in." Saunders insisted that such "low and ungentlemanly language is entirely unworthy of any one aspiring to the humblest position in the scientific world, and can only result in injury to himself." Of course, there were those who were sympathetic to the opinions expressed in the book, boldly declaring their viewpoints in letters to Strecker and others. Despite the intense criticism of certain aspects of *Rhopaloceres and Heteroceres*, those who condemned it continued to subscribe, something that Strecker probably took as validation of this work. Undaunted, and inspired by the praise of others, Strecker reissued the book in 1879 as originally published, with only minor corrections (see below).

Not only was Strecker criticized for his outspoken opinions in *Rhopaloceres and Heteroceres*, he was accused of intentionally antedating parts of the book. Brown (1964) determined that none of the month/year publication dates printed on the parts were accurate, with some being off by many months. Although Part 5 is dated "July 1873," the text refers to a letter dated 5 August 1873, which Strecker reportedly received as that part was going to press. Grote (1875) accused Strecker of misdating Part 11 to supersede some earlier moth descriptions. Part 14 was predated by many months, purportedly in an effort to claim authorship of several

taxa that had been described by Scudder and W. H. Edwards ([Saunders] 1877, Aaron 1884). Part 15 was issued eight months after its published claim of "November, 1877."

Brown (1964) proposed a publication date of 16 July 1878 for Part 15 based on an entry in Strecker's ledger. However, a letter to Strecker from B. Neumoegen, dated 12 July 1878 (FMNH), acknowledges receipt of "book no. 15." Because Strecker's correspondence typically reached New York from Reading in two or three days, the publication date for Part 15 should be amended to 9 July 1878. This affects only the publication of the name *Melitaea alma* (= *Chlosyne leanira alma*), which was described by Strecker in that part. In a previous letter, dated 22 March 1878, Neumoegen mentions receiving "books 14 & 15," but this is apparently in error for Parts 13 and 14.

Second edition. Weiss (1953) alluded to a second edition of *Rhopaloceres and Heteroceres*, citing a 1953 catalog of the bookseller Edward Morrill & Son, who listed a second edition of "(1879)." Weiss did not elaborate or investigate further. I have found no other references to this edition in published bibliographies of entomological works, except Holland (1898, 1931), who may have inadvertently alluded to it when stating that the book "came out from 1872 to 1879." Numerous copies of *Rhopaloceres and Heteroceres* are preserved in libraries, but I was able to locate only eight that are identified as the second edition. An additional copy was found in the library of Eric H. Metzler. A copy at The Ohio State University can be viewed online (HathiTrust 2016). An incomplete copy of the second edition (lacking Pl. 4) was auctioned several years ago by a bookseller in Texas and images of some of its plates are also available online (Sloan 2009).

The second edition (Strecker [1879]) was published as a complete book (i.e. not in parts) in paper wrappers, which varied in color (e.g. buff and yellow). Despite accusations that Strecker had intentionally misdated several parts of the first edition, the original publication dates of the first and last parts are repeated on the front wrapper of the second edition as "Jan. 1, 1872 to Nov., 1877" (Fig. 2). In the upper left hand corner of the front wrapper is "No. 1 to 15." Also on the cover, but oddly out of place and not applicable to this edition, is the statement "Issued Quarterly, at 50 Cents per Part in U.S. / In Europe, 2 Shillings, exclusive of postage." This was possibly included in error by the printer, carried over from the last few parts of the first edition.

Like the title page of the first edition, that of the second edition gives a publication date of "January 1, 1872." Rather than crediting Owen's Steam Book and Job Printing Office as the printer, the front wrapper and

title page of the second edition states “Printed for the Author.” While the first edition includes a prefatory “Advertisement” detailing Strecker’s original plans to issue parts of the book, this page in the second edition was printed under the heading “Preface to the First Edition,” without alteration to the original text. This page is preceded by a “Preface to the Second Edition,” dated “Nov., 1879” (Fig. 2), which is the only physical evidence of this edition’s publication date. This page offers insight into the production of the first edition and summarizes the history of the second edition:

“When this work was commenced, seven years ago, it was more with a view to private distribution among a few interested friends than with any idea that it would be deemed of sufficient value to ensure a more extended demand. And, after the issue of the first number, there seemed every prospect that the expectation of a limited circulation would be realized; for, notwithstanding that the plates were drawn, lithographed and even coloured by myself, the cost of paper, printing and incidentals was more than I felt able to invest in so non-paying an enterprise. But the powers interested will otherwise, for to a friend not specially interested in any one branch of science or art, but who had warm appreciation of the beautiful and curios in both, I was indebted for the opportunity of continuing the work until it reached the fourth part; after which, despite adverse criticism, which was dealt out with unsparing liberality, and the prognostications of those who were not enamored of my style, it began to pay for itself, and has continued to do so ever since, until the first edition has been entirely exhausted. Perhaps no more fitting place may offer wherein to express my gratitude to this gentleman, Mr. Edward P. Boas, of this city, for his unasked and liberal aid.

“My impecuniosity at the time of the publication of the first few plates would not allow me to retain the drawings on the stone, but of necessity I was obliged to obliterate each one after the impressions were struck off, in order to use the same stone for the drawing of the next. Hence when the first edition was exhausted, the few hundred extra impressions of the later plates that I had the precaution to have printed, were of no use unless the earlier ones were reproduced. The number of inquiries for the work now demands that this be done, and a second edition is herewith submitted to the public. It is, with the exception of the correction of a few typographical errors, an exact reproduction of the first.”

This confirms that Strecker ordered extra plates during the production of the first edition in the event that the book was successful and he desired to issue additional copies.

Despite Strecker’s claim that he replaced only “earlier” plates, my analysis indicates that he also reproduced at least two later plates. Plates 1–3 in my copy, as well that of E. H. Metzler, are hand-colored

photomechanical reproductions of the original plates. They are printed on thinner, coated paper, most likely using the heliotype process. A very subtle plate mark is present near the outside margins of these plates. Plates 10 and 11 of my copy were printed on thicker, cream-colored coated paper using the same process. Four of these five plates (1, 3, 10, and 11) exhibit a shadowy gray background extending beyond the figures, which is an artifact of the photographic process (Fig. 3). The gray background on Plate 10 indicates that there was a small, rectangular piece missing from the left margin of the film negative used for this print. This is also clearly evident on this plate in the second edition sold by Sloan (2009). All other plates in my copy of the second edition are hand-colored lithographs printed on thicker, uncoated paper, as published in the first edition. Of the twelve plates in the second edition figured by Sloan (2009), 1, 10 and 11 are reproductions (Pls. 2 and 3 are not figured). Plates 1–3 and 10 of the Ohio State copy (HathiTrust 2016) are also reproductions (Pl. 11 is missing). Interestingly, Plates 10 and 11 of Metzler’s copy are not reproductions, suggesting that Strecker was still using inventory of the original lithographs when he assembled Metzler’s copy, and perhaps others. He was forced to reproduce these plates for additional copies of the book, explaining why he made no mention of these later plates in the preface of the second edition.

Many of the figures in the second edition were colored in a sloppy fashion, with heavier, unnaturally vivid applications of paint (Fig. 4). The quality varies considerably between plates, suggesting that more than one colorist was involved. Many figures were haphazardly varnished after being colored and this coating is often yellowed. Strecker possibly waited to color some of the extra plates from the first edition until they were employed for the second edition. The plates in the second edition were inserted into the volume to be viewed in the recto position, with their left margins toward the gutter. Each was preceded by a blank sheet of coated protective paper.

My examination of the second edition reveals that Strecker also retained extra copies of letterpress from the original parts of the first edition, thus he reprinted very little of the original book. Comparing the text from both editions reveals that only five signatures of the second edition exhibit differences (pgs. 5–[8], 9–12, 13–[16], 17–20, and 21–24). These changes mostly involve the addition of page numbers, but defects in the letterpress were also inadvertently corrected when those signatures were reprinted with new type (Figs. 5a, b). Pages 21 and 22 were slightly reformatted, but the content remained unchanged. All other pages are the same as those in the first edition, with identical

TABLE 1. Summary of the publication of *Rhopaloceres* and *Heteroceres*. Wrapper abbreviations: FR=front recto; FV=front verso; RR=rear recto; RV=rear verso.

Issue	Publication Date	Pagination	Wrapper Details
First Edition			
Part 1	5 April 1872	[1-8]; pl. [1]	FR: dated "January 1, 1872" with "Price 50 Cents." RR: notice to publishers with seven advertisements.
Part 2	14 May 1873	[9], 10-12, [13-14], 15, [16]; pl. 2	FR: dated "April, 1872" with "Price 50 Cents." FV: two notices. RR: list of 26 species desired by Strecker. RV: advertisement for North Atlantic Express Co.
Part 3	17 June 1873	17-24; pl. 3	FR: dated "May, 1873," with "Price 50 Cents." FV: two notices. RR: list of 51 species desired by Strecker. RV: advertisement for North Atlantic Express Co.
Part 4	18 July 1873	25-32; pl. 4	FR: dated "June, 1873," with "Price 50 Cents." FV: two notices. RR: list of 51 species desired by Strecker. RV: advertisement for North Atlantic Express Co.
Part 5	14 September 1873	33-43, [44]; pl. 5	FR: dated "July, 1873," with "Price 50 Cents." FV: two notices. RR: list of 86 species desired by Strecker. RV: advertisement for North Atlantic Express Co.
Part 6	17 October 1873	45-50; pl. 6	FR: dated "August, 1873," with "Price 50 Cents." RR: list of 96 species desired by Strecker. RV: advertisement for North Atlantic Express Co.
Part 7	13 December 1873	51-60; pl. 7	FR: dated "September, 1873," with "Price 50 Cents." RR: list of 101 species desired by Strecker. RV: advertisement for North Atlantic Express Co.
Part 8	27 February 1874	61-70; pl. 8	FR: dated "1874," with "Price 50 Cents." RR: list of 104 species desired by Strecker. RV: advertisement for North Atlantic Express Co.
Part 9	8 May 1874	71-80; pl. 9	FR: dated "1874," with "Price 50 Cents." RR: list of 105 species desired by Strecker. RV: advertisement for North Atlantic Express Co.

TABLE 1. Summary of the publication of *Rhopaloceres and Heteroceres*. Wrapper abbreviations: FR=front recto; FV=front verso; RR=rear recto; RV=rear verso. CONTINUED from previous page.

Issue	Publication Date	Pagination	Wrapper Details
First Edition			
Part 10	28 August 1874	81-94; pl. 10	FR: dated "1874," with "Price 50 Cents." RR: list of 105 species desired by Strecker. RV: advertisement for American Oceanic Express Co.
Part 11	28 November 1874	95-100; pl. 11	FR: dated "1874," with "Price 50 Cents." RR: list of 105 species desired by Strecker. RV: advertisement for American Oceanic Express Co.
Part 12	18 May 1875	101-108; pl. 12	FR: dated "1875," with "Issued Quarterly at 50 Cents per Part." RR: list of 105 species desired by Strecker. RV: advertisement for the express company, S. D. Jones.
Part 13	20 February 1876	109-123, [124]; pl. 13	FR: dated "1876," with "Issued Quarterly at 50 Cents per Part in U.S. / In Europe, 2 Shillings." RR: list of 108 species desired by Strecker. RV: three advertisements.
Part 14	18 March 1878	125-134; pl. 14	FR: dated "1877," with "Issued Quarterly at 50 Cents per Part in U.S. / In Europe, 2 Shillings." RR/RV: list of 219 species desired by Strecker. RV: advertisement for W. V. Andrews. "
Part 15	9 July 1878	135-143, [144]; pl.15	FR: dated "1877," with "Issued Quarterly at 50 Cents per Part in U.S. / In Europe, 2 Shillings." RR/RV: list of 219 species desired by Strecker. RV: advertisement for W. V. Andrews.
Second Edition	November 1879	[1-4, 5-7, [8], 9-15, [16], 17-43, [44], 45-123, [124], 125-143; pls. 1-15	Buff wrappers dated "Jan. 1, 1872 to Nov., 1877," with "Issued Quarterly at 50 Cents per Part in U.S. / In Europe, 2 Shillings, Exclusive of Postage." Signatures 5-[8], 9-12, 13-[16], 17-20, and 21-24 reprinted with changes/corrections. Plates 1-3 reproduced. Plates 10 and 11 reproduced in later copies. Remainder of text and plates as in first edition.
Supplements			
No. 1	15 September 1898	[1-5], 6-12	Unable to locate original wrappers.
No. 2	30 June 1899	[1-3], 4-11, [12]	Unable to locate original wrappers.
No. 3	9 March 1900	[13-17], 18-37	Light gray or blue wrappers dated "1900."
Addendum to No. 3	21 April 1900	38	Dated "April 21, 1900."

impressions that exhibit analogous imperfections and defects, which are present in all four copies of the first edition that I consulted (Figs. 5c, d). The fact that Strecker used previously-printed letterpress for the second edition is most obvious on pages 101–108, which were printed on dusky paper, conspicuously matching the same pages in Part 12 of the first edition. Though not stated on the title page, the printer of the second edition is implied to be B. F. Owen.

The number of copies of the second edition is unknown, but it was probably 50 or fewer. The date “Nov., 1879” is consistent with a letter to Strecker, dated 6 November 1879, from the entomologist Joseph A. Lintner, who wrote, “I am glad that . . . the demand for the work authorizes you to issue another edition” (FMNH). According to Strecker’s correspondence, he usually sold copies of the second edition for \$7.50, which is equivalent to about \$180 in today’s economy.

Supplements. The three supplements to *Rhopaloceres and Heteroceres* were issued in paper wrappers. The first two supplements, dated 15 September 1898 and 30 June 1899, were offered for twenty-five cents. The third supplement, dated 9 March 1900, was priced at fifty cents. Bridges (1993) suggested that the third supplement was issued after 10 December 1900, but a copy was received in Washington, D.C. on 13 March 1900 by the Smithsonian entomologist Harrison G. Dyar. Strecker was apparently working on the third supplement two months earlier, when Dyar remarked, “I shall be glad to see your supplement 3” (28.i.1900, FMNH). Few surviving copies of *Rhopaloceres and Heteroceres* include all three supplements, as they were issued long after most owners had already bound their copies of the book (many of the original subscribers had died or were no longer active). My own copy of the first edition includes only the first two supplements. The supplements were more often bound together as a stand-alone volume.

Within days of learning that a new butterfly was to be described by the Illinois lepidopterist William Barnes, Strecker rushed to press with his own one-page description of *Neophasia epyaxa* (Strecker 1900b), apparently in a deliberate attempt to steal authorship. Skinner (1900) exposed this offense and confirmed that he received a copy of Strecker’s description “a couple of days” after 19 April 1900. Skinner’s copy is currently preserved in the library of the Academy of Natural Sciences (Philadelphia, Pennsylvania), and it is date-stamped “April 24 1[900].” Across the top, Skinner scrawled, “This special sheet was gotten out to steal the authorship of this species description & represents the most contemptible piece of work that has come to my

notice.” Dated “April 21, 1900,” Strecker did not include a separate title page to clearly identify this description as a fourth supplement to *Rhopaloceres and Heteroceres*. However, the page number “38” is printed on the sheet, indicating that it was to follow the third supplement, which ended on page 37. Pelham (2008) suggested that this single page was issued separately, then also published as part of the third supplement. Evidence reveals that it was actually issued only once and was not physically part of the third supplement. A letter from H. G. Dyar, dated 27 April 1900, thanked Strecker for sending the one-page description, which was more than six weeks after he received the third supplement on 13 March (FMNH). Carlvert (1900) listed the third supplement as including “Pp. 15–37,” with no reference to a 38th page. An original copy of the third supplement at FMNH contains only pages [13]–37. My own copy of the first edition of *Rhopaloceres and Heteroceres* includes an old Photostat (pre-1953) of the third supplement, which ends on page 37. In addition, page 37 of the third supplement is printed on the recto of the sheet; the verso is blank. As suggested by Oiticica (1946), it is perhaps best to treat this one-page description as an addendum to the third supplement. The date-stamp on the copy of this sheet at ANSP (“April 24 1[1900]”) reinforces the printed publication date of 21 April 1900. In the end, Strecker received no reward for his impulsive description of *N. epyaxa*. Almost immediately after publishing his description, H. G. Dyar wrote that it represented the female of a known species: “But it seems to me that you have but the ♀ of *N. terlooii* Behr.” (27.iii.1900, FMNH). Skinner (1900) and Poling (1900) soon confirmed that *N. epyaxa* was indeed the female of *Neophasia terlooii*. This was to be Strecker’s last bid for fame. He died the following year.

Table 1 offers an updated summary of the entire publication history of *Rhopaloceres and Heteroceres*, including page numbers and other aspects of the work. All but one of the publication dates listed for the first edition are consistent with the conclusions of Brown (1964).

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