

On the publication dates of the "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" by Paul Bernhard Gerhard (Lepidoptera: Lycaenidae)

Alain Olivier

Samenvatting. Over de publicatiedata van het "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" door Paul Bernhard Gerhard (Lepidoptera: Lycaenidae)

In het midden van de 19de eeuw werd een aantal taxa uit de soortengroep, behorende tot de Lycaenidae, bijna gelijktijdig beschreven door Christian Friedrich Freyer in zijn "Neuere Beiträge zur Schmetterlingskunde mit Abbildungen nach der Natur" ([1831]–1858), door Gottlieb August Wilhelm Herrich-Schäffer in zijn "Systematische Bearbeitung der Schmetterlinge von Europa, zugleich als Text, Revision und Supplement zu Jakob Hübner's Sammlung europäischer Schmetterlinge" (1843–1856) en door Paul Bernhard Gerhard in zijn "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" (1850–1853). In deze publicatie, de eerste van een geplande reeks van vier, wordt een precieze datering voorgenomen van de verschillende delen ("Hefte") van Gerhard's werk. Na een korte biografische schets van Paul Bernhard Gerhard, waarbij voornamelijk het accent wordt gelegd op zijn verhoudingen tot andere verzamelaars en handelaars, volgt de zo precies mogelijke datering van de tien Hefte aan de hand van externe bronnen en een korte evaluatie van de impact van zijn werk op zijn onmiddellijke tijdgenoten in de lepidopterologische wereld. Tenslotte volgt een chronologische lijst van de nominale taxa, welke in dit werk worden beschreven, afgebeeld en vermeld.

Résumé. Sur les dates de publication du "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" par Paul Bernhard Gerhard (Lepidoptera: Lycaenidae)

Au milieu du 19^{ème} siècle, un certain nombre de taxa du groupe-espèce, appartenant aux Lycaenidae, furent décrits presque simultanément par Christian Friedrich Freyer dans ses "Neuere Beiträge zur Schmetterlingskunde mit Abbildungen nach der Natur" ([1831]–1858), par Gottlieb August Wilhelm Herrich-Schäffer dans son "Systematische Bearbeitung der Schmetterlinge von Europa, zugleich als Text, Revision und Supplement zu Jakob Hübner's Sammlung europäischer Schmetterlinge" (1843–1856) et par Paul Bernhard Gerhard dans son "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" (1850–1853). Dans la présente publication, la première d'une série prévue de quatre, une datation précise des différentes parties ("Hefte") du travail de Gerhard est entreprise. Après une brève notice biographique sur Paul Bernhard Gerhard, où l'accent est mis principalement sur ses rapports avec d'autres collectionneurs et commerçants, suit la datation aussi précise que possible des dix Hefte au moyen de sources extérieures, ainsi qu'une évaluation succincte de l'impact de son œuvre sur ses contemporains immédiats du monde lépidoptérologique. Enfin, une liste chronologique des taxa nominatifs, décrits, illustrés et mentionnés dans ce travail, est présentée.

Abstract. On the publication dates of the "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" by Paul Bernhard Gerhard (Lepidoptera: Lycaenidae)

In the middle of the 19th Century, a series of Lycaenid butterfly species-group taxa was described almost simultaneously by Christian Friedrich Freyer in his "Neuere Beiträge zur Schmetterlingskunde mit Abbildungen nach der Natur" ([1831]–1858), by Gottlieb August Wilhelm Herrich-Schäffer in his "Systematische Bearbeitung der Schmetterlinge von Europa, zugleich als Text, Revision und Supplement zu Jakob Hübner's Sammlung europäischer Schmetterlinge" (1843–1856) and by Paul Bernhard Gerhard in his "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" (1850–1853). In the present publication, the first of a planned series of four, the establishment of the exact dates of publication of the various instalments ("Hefte") of Gerhard's work will be attempted. After a short biographical sketch of Paul Bernhard Gerhard, whereby an emphasis is placed on his relations to other collectors and dealers, the dating of the ten Hefte, as accurately as possible, is performed with the aid of external sources, as well as a brief evaluation of the immediate impact of his work on the contemporaneous lepidopterological world. Finally, a chronological list of nominal taxa described, figured or mentioned in this work, is presented.

Zusammenfassung. Über die Publikationsdaten von Paul Bernhard Gerhard's "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" (Lepidoptera: Lycaenidae)

In der Mitte des 19. Jahrhunderts wurden eine Reihe von Lycaeniden-Taxa der Artengruppe fast gleichzeitig von Christian Friedrich Freyer in seinen "Neuere Beiträge zur Schmetterlingskunde mit Abbildungen nach der Natur" ([1831]–1858), von Gottlieb August Wilhelm Herrich-Schäffer in seiner "Systematische Bearbeitung der Schmetterlinge von Europa, zugleich als Text, Revision und Supplement zu Jakob Hübner's Sammlung europäischer Schmetterlinge" (1843–1856) sowie von Paul Bernhard Gerhard in seinem "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" (1850–1853) beschrieben. Die vorliegende Arbeit, sie ist die erste einer geplanten Serie von vier Publikationen, versucht die exakten Publikationsdaten verschiedener Teile ("Hefte") von Gerhard's Arbeiten zu ermitteln. Es wird eine kurze Biographie von Paul Bernhard Gerhard mit Anmerkungen über seine Kontakte zu anderen Sammlern und Händlern sowie eine kurze Bewertung des unmittelbaren Einflusses seines Wirkens auf die Lepidopterologie seiner Zeit gegeben. Die Erscheinungsdaten seiner Hefte wurden durch Nutzung sekundärer Literaturquellen so exakt wie möglich ermittelt. Nominelle Taxa, welche beschrieben, abgebildet oder erwähnt werden, sind chronologisch aufgelistet.

Key words : Lycaenidae – Gerhard – literature – nomenclature – publication dates

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Introduction

By the middle of the 19th Century, some renown dealers in Germany sold butterfly material collected in various places in Europe and Asia Minor, that belonged to species group taxa new to science and that were described by Christian Friedrich Freyer (°25.08.1794–†10.11.1885) in his "Neuere Beiträge zur Schmetterlingskunde mit Abbildungen nach der Natur" ([1831]–1858), by Gottlieb August Wilhelm Herrich-Schäffer (°17.12.1799–†14.04.1874) in his "Systematische Bearbeitung der Schmetterlinge von Europa, zugleich als Text, Revision und Supplement zu Jakob Hübner's Sammlung europäischer Schmetterlinge" (1843–1856) and by Paul Bernhard Gerhard (°10.03.1824–†18?) in his "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" (1850–1853). Especially in 1850–1851, a series of species-group taxa, belonging to the Lycaenidae, were described almost simultaneously by these three authors. Up to the present, it has been virtually impossible to establish the correct synonymy for such species, despite efforts of dating of the three forementioned works by resp. Heppner (1982) and Tremewan (1988) for Freyer, Hemming (1937) for Herrich-Schäffer and Koçak (1980) for Gerhard. As a result, some lycaenid taxa are mentioned about equally frequently in the current lepidopterological literature under such alternative species names (e.g. *panagaea* vs. *endymion*, *candalus* vs. *corneliae*, *actis* vs. *atys*, ...).

The present contribution is the first of a planned series of four papers, that will deal resp. with establishing the exact dates (as far as is possible to determine) of publication of the three forementioned works by resp. Gerhard, Herrich-Schäffer and Freyer, and in a separate publication the analysis of nomenclatural problems encountered. The main difficulties reside with the dating of the various parts of these three works, that were each published as a continuous series of "Hefte" or "Lieferungen", consisting of text parts and colour plates, that were not always published in an apparently logical order. While the dating up to the year has apparently been resolved satisfactorily already (although in their famous monograph on Turkish butterflies, Hesselbarth *et al.* 1995 followed the sometimes erroneous conclusions of Heppner 1982 on the dating of some of Freyer's Hefte), a more precise dating (month of publication) appears critical in some difficult cases of priority: as will be seen, this appeared impossible in some instances. Further considerations, that will be of importance in suggestions for the preferred use of one name over another, include nomenclatural stability in the sense of ICZN 1985, Art. 23 as

well as the availability of extant type specimens: such issues will be addressed in the fourth paper.

The first three contributions will, as already stated, aim at a dating most precisely as possible. Beside the results already reported by previous researchers, data obtained after consultation of (almost) contemporary works (e.g. Heydenreich 1851, Keferstein 1851, Meyer-Dür 1852 and Lederer 1852), as well as various reports of Library in some contemporary journals (e.g. *Entomologische Zeitung Stettin*, which appeared invaluable) and cross-references between the various works, appeared of great use.

In this first paper, a dating of Gerhard's work appears to agree by and large with Koçak's (1980) conclusions, with some slight differences however, and to differ more than once with the conclusions of Hesselbarth *et al.* (1995). Further, beside biographical data, information on contacts with colleagues and dealers will be provided. Finally, a chronologically arranged checklist of nominal taxa dealt with in Gerhard's publication will be presented.

Paul Bernhard Gerhard: a short biography

Biographical data on Paul Bernhard Gerhard are scanty, and the following account is based on Weidner (1967: 121): "He was born in Leipzig on 10.03.1824 and only moved to Hamburg in 1848. There he obtained citizenship on 05.07.1850 and married Johanna Mathilde Hühn on 25.01.1851. Until 1857, he was filed as resident in Hamburg, after which he must have returned to Leipzig; in 1870–1871 the latter town is listed as his home place in the member list of the Entomological Society of Stettin, to which he already joined when still in Hamburg. According to information gathered from the city archive of Leipzig he was filed as a resident there from 1869 to 1893. In 1878 he was vice-president of the entomological society "Fauna" in Leipzig. In that year he published a "Systematisches Verzeichniss der Macro-Lepidopteren von Nord-Amerika". He probably did not die in Leipzig".

From his various comments in his "Versuch einer Monographie...", it appears that Gerhard was in friendly terms with such famous collectors and dealers as Julius Lederer, Johann Georg Bischoff, Christian Friedrich Freyer, Rudolf Schmidt, Wolfgang Andereg, Gustav Heinrich Heydenreich, Eduard Hering, G. T. Keitel, August Dutreux, Michael Christian Sommer, Q. M. R. Ver-Huell. He does not seem to have had direct contacts with Albert Kindermann, although he obtained some material collected by him through Lederer, or with Frivaldszky, of which he received some material via Heydenreich. Rudolf Schmidt furnished him with some material collected by Eversmann. His relations with Herrich-Schäffer appear more mysterious. In 1850, he apparently initially became informed of Herrich-Schäffer's viewpoints via Lederer (e.g. comments under "*Argus Ledereri* Kind." on p. 4) but later that year, he apparently was aware of some of Herrich-Schäffer's names, viz. "*Asabinus*. H. Sch." and "*ochimus* H. Sch." (p. 7), that were only published by the latter author in 1851 and, in early 1851, "*Actis*. Herr.-Schaeff." and "*Carmon*" that were published by Herrich-Schäffer in 1851 as well. Possibly these names were circulated on sales lists or they became known to Gerhard via Lederer. By late 1852 (before December), Gerhard quotes plates 71, 106 and 123 of Herrich-Schäffer, of which the latter plate was published in 1852 as well and hence the latter author's work was known to him by that time. Herrich-Schäffer ([1856], Bd. 6[Heft 69]: 171), on the other hand, comments only five years later on Gerhard's *Carmon* and *Alys*, suggesting that he was not aware of Gerhard's work by the time of its publication and thus had no direct contacts with him. Notably, Gerhard doesn't seem to have had any contact with the famous collector Carl Gotthelf Kaden.

Nothing is known about any extant collection material. What is certain is that, if left in Hamburg, Gerhard's collection was probably entirely destroyed, as the Zoological

Museum of Hamburg was bombed by the Royal Air Force in 1943 and burned out, whereby all the collections of the Dept. of Entomology were lost, including documents relating to these materials (Prof. Dr. O. Kraus, in litt. 28.VI.1999).

Dating of the various Hefte of Gerhard's "Versuch einer Monographie..."

Gerhard's work was published in 10 Hefte, from 1850 to 1853 (the exact number of pages and colour plates making up each Heft can be deduced from the chronological list below; see also References). The coloured illustrations on the 39 colour plates in this work were produced by a certain Johann Heinrich Conrad Tessien from Altona (°21.04.1814–†20.08.1868; a short biography of him and a review of his works can be found in Weidner 1967: 112–114). Figs 1 and 2 reproduce resp. Tessien's colour plates 9 and 31 in Gerhard's work. Hagen (1862: 272), and later Horn & Schenkling (1928: 410), dated Hefte 1 to 3 in 1850. Koçak (1980: 16) concluded that the publication date is April 1850, as Hagen (*op.cit.*) put the number 4 after 1850. There is no direct evidence for this, however, and although the preface is dated April 1850, it does not mean that such is the **publication** date. Through the courtesy of Dr. R. Gaedike (Eberswalde), I obtained the copy of a letter by Gerhard dated 9th November 1850 (fig. 3, including reproduction in normal letter type through the courtesy of Dr. P. Sigbert Wagener, Bocholt/Westf.), in which he mentions "die bis jetzt erschienenen 3 Hefte [the 3 instalments published so far]", hence they can be dated "[9.XI.1850]". Sherborn (1922: lviii) dates pp. 1–12 and pls. 1–12 in 1850: this agrees with the present findings as far as the plates are concerned, but not for pp. 9–12 (see below): in the absence of any further evidence in support of Sherborn's claim, this quotation is considered here as only of anecdotal interest. Keferstein (1851: 222), in the preface to his "Versuch einer kritisch-systematischen Aufstellung der europ. Lepidopteren mit Berücksichtigung der Synonymie", dated "Monat Mei 1851 [month of May 1851]", lists Hefte 1, 2, 4 and 5 of Gerhard's work and thus Hefte 4 and 5 can be dated "[31.V.1851]". Heydenreich (1851) lists Gerhard's names up to those published in Heft 4, this suggesting that Heft 4 appeared some time before Heft 5: unfortunately no further precisions can be given. Meyer-Dür (1852) lists various quotations from Gerhard's work up to Plate 32 [= Heft 8] and, as the introduction to his work is dated November 1851, Hefte 6 to 8 can be dated "[30.XI.1851]": for Hefte 6 and 7, this dating is confirmed in the "Vereinsangelegenheiten" published in *Entomologische Zeitung herausgegeben von dem entomologischen Vereine zu Stettin* 12(11) dated November 1851 (p. 322). Heft 9 is referred to in the "Vereinsangelegenheiten" published in *Entomologische Zeitung herausgegeben von dem entomologischen Vereine zu Stettin* 13(12) dated December 1852 (p. 424) and can thus only be dated as "[31.XII.1852]". Finally, Heft 10 is referred to in the "Vereinsangelegenheiten" published in *Entomologische Zeitung herausgegeben von dem entomologischen Vereine zu Stettin* 14(7) dated July 1853 (p. 424) and can thus be dated as "[31.VII.]1853". It should be noted that both Hagen (1862: 272) and Horn & Schenkling (1928: 410) mention 1852 as the year of publication of Heft 10, but they give no evidence in support of this and Koçak (1980: 17) consequently lists July 1853 as publication date of this Heft. All datings are in accordance with ICZN 1985, Art. 21 and further are put between square brackets, as the relevant information was obtained from external evidence (Gerhard's letter, contemporary literature) and not from the work itself, except for the year of publication of Heft 10, that must have been issued together with the title page dated 1853.

The impact of Gerhard's "Versuch einer Monographie..." on contemporary lepidopterists

Soon after the publication of the first Heft, Zeller (1851: 17–20) published a crushing review of it in the *Entomologische Zeitung herausgegeben von dem entomologischen Phega* 27 (4) (1.XII.1999): 130

Vereine zu Stettin 12(1) dated January 1851 and Schaum (1852: 218–219 and again in 1853: 114–115) and Gerstaecker (1854: 268–269 and again in 1855: 80–81) also apparently had a low opinion of this work. Despite of this, Gerhard was quoted by Heydenreich (1851, *vide supra*), Keferstein (1851, *vide supra*), Meyer-Dür (1852) and Lederer (1852), though the latter author does not quote him in his introduction and, when a taxon was also named by another author, Gerhard's name is almost invariably listed as a synonym. Herrich-Schäffer only knew of Gerhard's work a couple of years after its publication, quoting it at last in his "Zweiter Nachtrag zum ersten und zweiten Bande" in his Bd. 6[Heft 69], published in 1856. Freyer, on the other hand, does not quote Gerhard at all in Bde. 6 and 7[Hefte 91 to 120] of his "Neuere Beiträge" (1850–1858). Staudinger (1861, 1871), on the contrary, again quotes Gerhard.

Chronologically arranged checklist of nominal taxa described, figured or mentioned by Gerhard in his "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde" (1850–1853)

Names newly introduced by Gerhard that are nomenclaturally valid and available, as well as new infrasubspecific names, are marked with an asterisk. They will be reviewed in a separate publication.

Nominal taxa	Hefte	pages	plates	publication dates
<i>Thecla Betulae</i> L.	1	3	1 (fig. 1 a,b, ♂ c, ♀)	[9.XI.1850]
* <i>Thecla Betulae</i> Var. <i>Spinosa</i> mihi	"	"	3 (fig. 2, ♂)	"
<i>Thecla Pruni</i> L.	"	"	1 (fig. 2 a, ♂ b,c, ♀)	"
<i>Thecla Walbum</i> Hbr.	"	"	1 (fig. 3 a,b, ♂ c, ♀)	"
<i>Thecla Acaciae</i> Herbst	"	"	1 (fig. 4 a, ♂ b,c, ♀)	"
<i>Thecla Aesculi</i> Hbr.	"	"	2 (fig. 1 a, ♂ b,c, ♀)	"
* <i>Thecla Illicioides</i> mihi	"	"	4 (fig. 5 a, ♂ b,c, ♀)	"
* <i>Thecla Illicioides</i> Var. <i>Maculatus</i> mihi	"	"	4 (fig. 4)	"
<i>Thecla Lynceus</i> Fabr.	"	"	2 (fig. 2 a, ♂ b,c, ♀)	"
<i>Thecla Lynceus</i> Var. <i>Cerri</i> Hbr.	"	"	4 (fig. 1 a, ♂ b, ♀)	"
* <i>Thecla Lynceus</i> Var. <i>Bischoffii</i> mihi	"	"	2 (fig. 4 a,b, ♂ c, ♀)	"
<i>Thecla Spini</i> Hbr.	"	"	2 (fig. 5 a, ♂ b,c, ♀)	"
<i>Thecla Spini</i> Var. <i>Lynceus</i> Hbr.	"	4	3 (fig. 1 a, ♂ b, ♀)	"
<i>Thecla Quercus</i> L.	"	"	3 (fig. 3 a, ♂ b,c, ♀)	"
* <i>Thecla Quercus</i> Var. <i>Bellus</i> mihi	"	"	4 (fig. 2, ♀)	"
* <i>Thecla Abdominalis</i> Lederer	"	"	4 (fig. 3 a,b, ♀)	"
<i>Thecla Evippus</i> Hbr.	"	"	3 (fig. 4 a, ♂ b,c, ♀)	"
<i>Thecla Rubi</i> L.	"	"	3 (fig. 5 a, ♂ b,c, ♀)	"
*Genus <i>Argus</i> mihi	"	"	—	"
<i>Argus Ledereri</i> Kind.	"	"	4 (fig. 6 a, ♂ b,c, ♀)	"
<i>Polyommatus Ballus</i> Hbr.	2	5	5 (fig. 1 a, ♂ b,c, ♀)	"
* <i>Polyommatus Ballus</i> Var. <i>Undulatus</i> mihi	"	"	5 (fig. 2 a,b, ♂)	"
<i>Polyommatus Phlaeas</i> L.	"	"	5 (fig. 4 a, ♂ b,c, ♀)	"

(continued on p. 135)

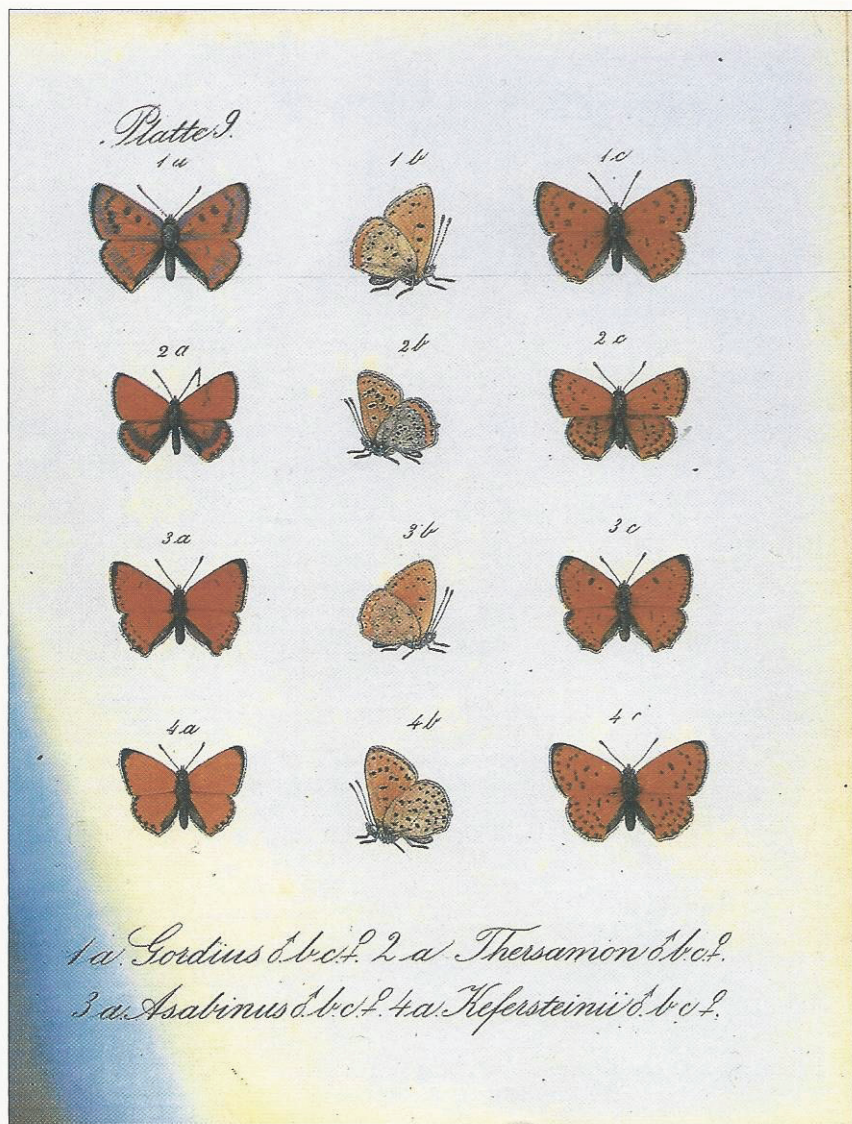


Fig. 1. Plate 9 from Gerhard's "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde", Heft 3 [9.XI.1850].

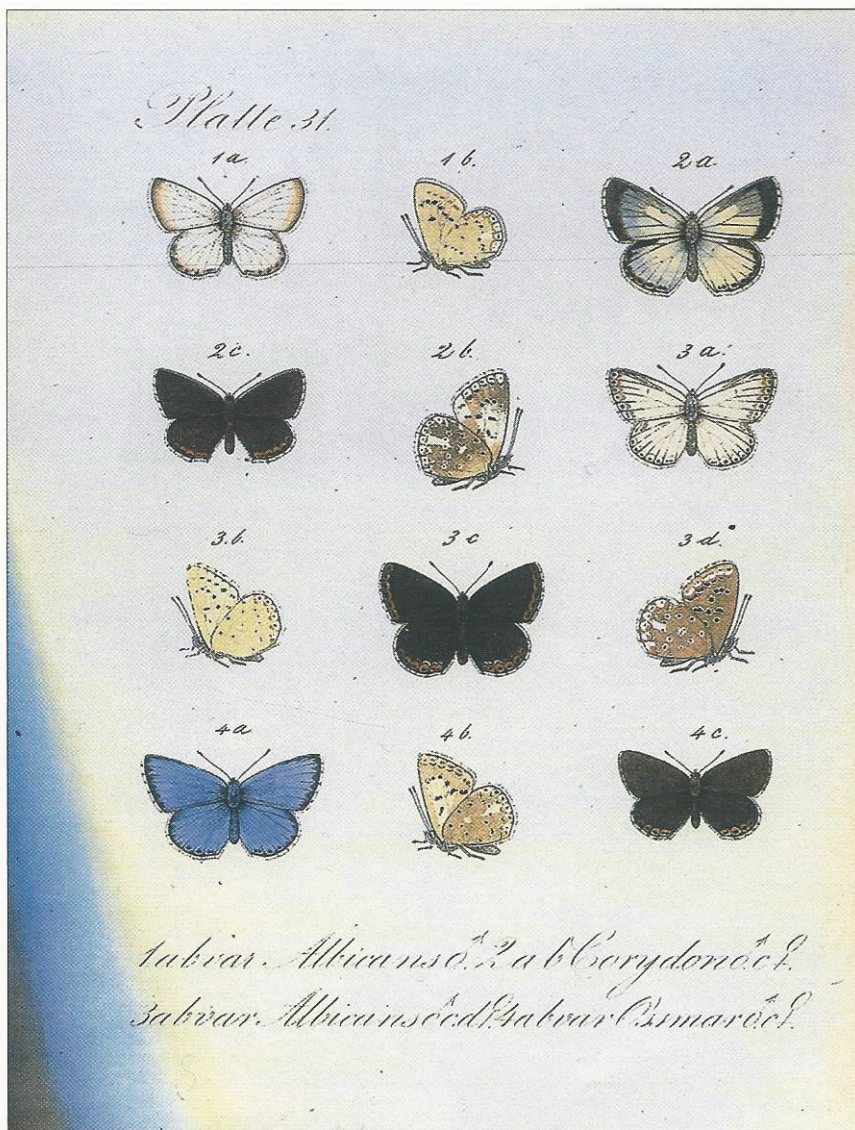


Fig. 2. Plate 31 from Gerhard's "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde", Heft 8 [30.XI.1851].

P. P.

Sie hatten gegen Herrn Fixsen den
Wunsch geäußert, meine Monographie
der Lycaenen noch einmal zu sehen und
ich beeile mich, Ihnen anbei die bis jetzt
erschienenen 3 Hefte zur gfl. Ansicht zu
übersenden. Der Preis jedes Heftes ist
... 2.8. und das Ganze wird aus 10
bis 11 Heften bestehen ...

Sollten Sie geneigt sein, auf dies Werk
zu reflectiren, so bitte ich um Ihre gütige
Anzeige ...

Hochachtungsvoll
Bernhard Gerhard
Bergstrasse 25.

Hamburg, 9 Novbr. 50.

P.P.

Sie hatten gegen Herrn Fixsen den
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Fig. 3. Facsimile reproduction of a letter written by Paul Bernhard Gerhard on 9th November 1850, dealing with the first three Hefte of his "Versuch einer Monographie der europäischen Schmetterlingsarten: *Thecla*, *Polyommatus* [sic], *Lycaena*, *Nemeobius*. Als Beitrag zur Schmetterlingskunde".

(continued from p. 131)

<i>Polyommatus Phlaeas</i> Var. <i>Eleus</i> Pod.	"	"	5 (fig. 3, ♂)	"
* <i>Polyommatus Turcicus</i> mihi	"	"	5 (fig. 5 a, ♂ b,c, ♀)	"
<i>Polyommatus Ottomanus</i> Bsdv.	"	"	6 (fig. 1 a,b, ♂ c, ♀)	"
<i>Polyommatus Ignitus</i> HSch. Bisch.	"	"	6 (fig. 2 a, ♂ b,c, ♀)	"
<i>Polyommatus Virgaureae</i> L.	"	"	6 (fig. 3 a, ♂ b,c, ♀)	"
<i>Polyommatus Virgaureae</i> L. Var. <i>Oranula</i> Fr.	"	"	6 (fig. 4 a, ♂ b,c, ♀)	"
<i>Polyommatus Hippothoë</i> L.	"	"	7 (fig. 1 a, ♂ b,c, ♀)	"
<i>Polyommatus Hippothoë</i> L. Var. <i>Dispar</i> Haw.	"	"	7 (fig. 2 a, ♂ b,c, ♀)	"
<i>Polyommatus Eurydice</i> Hbr.	"	"	7 (fig. 3 a, ♂ b, ♀)	"
<i>Polyommatus Chryseis</i> L.	"	"	7 (fig. 4 a, ♂ b,c, ♀)	"
* <i>Polyommatus Chryseis</i> Var. <i>Confluens</i> mihi	"	"	8 (fig. 1 a,b,c,d, ♂)	"
<i>Polyommatus Candens</i> Bisch.	"	"	8 (fig. 3 a, ♂ b,c, ♀)	"
* <i>Polyommatus Candens</i> Var. <i>Dido</i> Bisch.	"	"	8 (fig. 2 a,b, ♀)	"
<i>Polyommatus Hiere</i> Fabr.	"	"	8 (fig. 4 a, ♂ b,c, ♀)	"
<i>Polyommatus Gordius</i> Hbr.	3	7	9 (fig. 1 a, ♂ b,c, ♀)	"
<i>Polyommatus Thersamon</i> Fabr.	"	"	9 (fig. 2 a, ♂ b,c, ♀)	"
* <i>Polyommatus Asabinus</i> H. Sch.	"	"	9 (fig. 3 a, ♂ b,c, ♀)	"
* <i>Polyommatus Kefersteini</i> Bisch.	"	"	9 (fig. 4 a, ♂ b,c, ♀)	"
<i>Polyommatus Xanthe</i> Fabr.	"	"	10 (fig. 1 a, ♂ b,c, ♀)	"
* <i>Polyommatus Xanthe</i> Var. <i>Canidia</i> Stentz.	"	"	10 (fig. 2, ♂)	"
* <i>Polyommatus Phlaeas</i> Var. <i>Schmidtii</i> mihi	"	"	10 (fig. 3 a,b, ♂)	"
<i>Polyommatus Helle</i> Fabr.	"	"	10 (fig. 4 a,b, ♂ c, ♀)	"
<i>Polyommatus Hafis</i> Kollar	"	"	10 (fig. 5 a,b, ♂ c, ♀)	"
<i>Polyommatus Callimachus</i> Evm.	"	"	—	"
<i>Lycaena Boetica</i> L.	"	"	11 (fig. 1 a,b, ♂ c, ♀)	"
<i>Lycaena Telicanus</i> Hbr.	"	"	11 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Psittacus</i> Kind.	"	"	11 (fig. 3 a, ♂ b,c, ♀)	"
* <i>Lycaena Theophrastes</i> Podvein	"	"	11 (fig. 4 a,b, ♂)	"
<i>Lycaena Amyntas</i> Hbr.	"	"	12 (fig. 1 a, ♂ b,c, ♀)	"
<i>Lycaena Amyntas</i> Var. <i>Coretas</i> Ochs.	"	8	11 (fig. 5, ♂)	"
<i>Lycaena Polysperchon</i> Bergstr.	"	"	12 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Fischeri</i> Evm.	"	"	12 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Rhymnus</i> Evm.	"	"	12 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Argiolus</i> L.	4	9	13 (fig. 1 a, ♂ b,c, ♀)	[31.V.1851]
<i>Lycaena Alsus</i> Hbr.	"	"	13 (fig. 2 a, ♂ b,c, ♀)	"
* <i>Lycaena Alsus</i> Var. <i>Alsoides</i> Anderegg	"	"	13 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Acis</i> W.V.	"	"	13 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Bellis</i> Friv.	"	"	14 (fig. 1 a, ♂ b,c, ♀)	"
<i>Lycaena Sebrus</i> Boisdv.	"	"	14 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Lorquini</i> Boisdv.	"	"	14 (fig. 3 a, ♂ b,c, ♀)	"

<i>Lycaena Melanops</i> Freyer	"	"	14 (fig. 4 a, ♂ b,c, ♀)	"
* <i>Lycaena Melanops</i> Var. <i>Marchandii</i> Rev. de Silv.	"	"	15 (fig. 1 a, b)	"
<i>Lycaena Lysimon</i> Hbr.	"	"	15 (fig. 2 a,b, ♂ c,d, ♀)	"
<i>Lycaena Cyllarus</i> Fabr.	"	"	15 (fig. 3 a,b, ♂ c,d, ♀)	"
<i>Lycaena Coelestina</i> Evm.	"	"	16 (fig. 1 a,b, ♂ c,d, ♀)	"
* <i>Lycaena Coelestina</i> Var. <i>Tristis</i> Bisch.	"	"	15 (fig. 4 a,b, ♂)	"
* <i>Lycaena Endymion</i> Bisch.	"	"	16 (fig. 2 a,b, ♂)	"
<i>Lycaena Trochilus</i> Kind.	"	"	16 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Optilete</i> Hbr.	"	"	16 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Optilete</i> Var. <i>Cyparissus</i> Hbr.	5	11	17 (fig. 1 a, ♂ b,c, ♀)	"
* <i>Lycaena Empyrea</i> Kind.	"	"	17 (fig. 2 a,b, ♂ c, ♀)	"
<i>Lycaena Dardanus</i> Friv.	"	"	17 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Psylorita</i> Friv.	"	"	17 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Orbitulus</i> Esp.	"	"	18 (fig. 1 a,b, ♂ c, ♀)	"
<i>Lycaena Orbitulus</i> Var. <i>Pyrenaica</i>	"	"	18 (fig. 2 a, ♂ b,c, ♀)	"
* <i>Lycaena Orbitulus</i> Var. <i>Araraticus</i> Bisch.	"	"	18 (fig. 3 a,b, ♂ c, ♀)	"
* <i>Lycaena Orbitulus</i> Var. <i>Aquila</i> Freyer	"	"	18 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Aquilo</i> Boisdv.	"	"	19 (fig. 1 a,b, ♀)	"
<i>Lycaena Donzelii</i> Hbr.	"	"	19 (fig. 2 a, ♂ b,c, ♀)	"
* <i>Lycaena Atys</i> Kind.	"	"	19 (fig. 3 a,b, ♂ c,d, ♀)	"
<i>Lycaena Damone</i> Evm.	"	"	19 (fig. 4 a, ♂ b,c, ♀)	"
* <i>Lycaena Eurypilos</i> Kind.	"	"	20 (fig. 1 a, ♂ b,c, ♀)	"
* <i>Lycaena Iphigenia</i> Friv.	"	"	20 (fig. 2 a,b, ♂ c, ♀)	"
<i>Lycaena Damon</i> Hbr.	"	"	20 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Dolus</i> Hbr.	"	"	20 (fig. 4 a,b, ♂ c, ♀)	"
<i>Lycaena Epidolus</i> Boisdv.	6	13	21 (fig. 1 a, ♂ b,c, ♀)	[30.XI.1851]
* <i>Lycaena Hopfferi</i> Kind.	"	"	21 (fig. 2 a,b, ♂ c, ♀)	"
<i>Lycaena Rippertii</i> Hbr.	"	"	21 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Admetus</i> Hbr.	"	"	21 (fig. 4 a,b, ♂ c ♀)	"
<i>Lycaena Pheretes</i> Ochs.	"	"	22 (fig. 1 a, ♂ b,c, ♀)	"
<i>Lycaena Battus</i> Hbr.	"	"	22 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Hylas</i> Hbr.	"	"	22 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Hylas</i> Var. <i>Panoptes</i> Hbr.	"	"	22 (fig. 4 a,b, ♂ c, ♀)	"
<i>Lycaena Bavius</i> Boisdv.	"	"	23 (fig. 1 a,b, ♂ c, ♀)	"
<i>Lycaena Aegon</i> Hbr.	"	"	23 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Aegon</i> Var. <i>Leodorus</i> Hbr.	"	"	23 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Aegon</i> Var. <i>Aegidion</i> Meissner	"	"	23 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Argus</i> L.	"	"	24 (fig. 1 a, ♂ b,c ♀)	"
<i>Lycaena Argus</i> Var. <i>Acreon</i> Fabr.	"	"	24 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Argus</i> Var. <i>Ismenias</i> Borkh.	"	"	24 (fig. 3 a,b, ♂ c,d, ♀)	"
<i>Lycaena Argus</i> Var. <i>Lycidas</i> Borkh.	"	"	24 (fig. 4 a,b, ♀)	"

* <i>Lycaena Carmon</i> H.-Sch.	7	15	25 (fig. 1 a, ♂ b,c, ♀)	"
<i>Lycaena Eumedon</i> Hbr.	"	"	25 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Artaxerxes</i> Lewin	"	"	25 (fig. 3 a, ♂ b,c, ♀)	"
* <i>Lycaena Artaxerxes</i> Var. <i>Salmucis</i> Wood	"	"	25 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Agestis</i> Hbr.	"	"	26 (fig. 1 a, ♂ b,c, ♀)	"
<i>Lycaena Agestis</i> Var. <i>Allous</i> Hbr.	"	"	26 (fig. 2 ♀)	"
<i>Lycaena Idas</i> Ramb.	"	"	26 (fig. 3 a,b, ♀)	"
<i>Lycaena Hyacinthus</i> Friv.	"	"	26 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Anteros</i> Friv.	"	"	26 (fig. 5 a, ♂ b,c, ♀)	"
* <i>Lycaena Eroides</i> Friv.	"	"	27 (fig. 1 a, ♂ b,c, ♀)	"
<i>Lycaena Eros</i> Ochs.	"	"	27 (fig. 2 a,b, ♂ c, ♀)	"
<i>Lycaena Boisduvalii</i> H.-Sch.	"	"	27 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Alexis</i> Hbr.	"	"	27 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Alexis</i> Var. <i>Iphis</i> Baumh. Mus.	"	"	28 (fig. 1 a, ♂ b,c, ♀)	"
<i>Lycaena Alexis</i> Var. <i>Thersites</i> B.	"	"	28 (fig. 2 a, ♂ b,c, ♀)	"
* <i>Lycaena Alexis</i> Var. <i>Pusillus</i> mih	"	"	28 (fig. 3 a, ♂ b,c, ♀)	"
<i>Lycaena Alexis</i> Var.	"	"	28 (fig. 4, ♀)	"
<i>Lycaena Alexis</i> Var.	"	"	28 (fig. 5 a,b, ♂)	"
* <i>Lycaena Cornelia</i> Kind.	8	17	29 (fig. 1 a,b, ♂ c, ♀)	"
<i>Lycaena Escheri</i> Hbr.	"	"	29 (fig. 2 a, ♂ b,c, ♀)	"
<i>Lycaena Zephyrus</i> Kind.	"	"	29 (fig. 3 a,b, ♂ c, ♀)	"
<i>Lycaena Icarus</i> Esper	"	"	29 (fig. 4 a,b, ♂ c, ♀)	"
<i>Lycaena Adonis</i> Hbr.	"	"	30 (fig. 1 a,b, ♂ c, ♀)	"
<i>Lycaena Adonis</i> Var. <i>Ceronus</i> Hbr.	"	"	30 (fig. 2 a,b, ♂ c, ♀)	"
* <i>Lycaena Adonis</i> Var. <i>Urania</i> Bischoff	"	"	30 (fig. 4, ♂)	"
<i>Lycaena Dorylas</i> Hbr.	"	"	30 (fig. 3 a,b, ♂ c, ♀)	"
<i>Lycaena Dorylas</i> Var. <i>Golgus</i> Hbr.	"	"	30 (fig. 5 a,b, ♂)	"
* <i>Lycaena Dorylas</i> Var. <i>Albicans</i> Hbr.	"	"	31 (fig. 1 a,b, ♂)	"
<i>Lycaena Corydon</i> Hbr.	"	"	31 (fig. 2 a,b, ♂ c, ♀)	"
* <i>Lycaena Corydon</i> Var. <i>Albicans</i> Hbr.	"	"	31 (fig. 3 a,b, ♂ c,d, ♀)	"
* <i>Lycaena Corydon</i> Var. <i>Ossmar</i> Bischoff	"	"	31 (fig. 4 a,b, ♂ c, ♀)	"
* <i>Lycaena Corydon</i> Ab. <i>Arragonensis</i> mih	"	"	32 (fig. 1 a,b, ♂ c,d, ♀)	"
* <i>Lycaena Corydon</i> Ab. <i>Cinnus</i> Hbr.	"	"	32 (fig. 2 a,b, ♀)	"
* <i>Lycaena Corydon</i> Ab. <i>Maris</i> <i>colore</i>	"	"	32 (fig. 3 a,b, ♀)	"
* <i>Lycaena Corydon</i> Ab. <i>Parisiensis</i> mih	"	"	32 (fig. 4)	"
<i>Lycaena Alcon</i> Hbr.	"	"	32 (fig. 5 a,b, ♂ c, ♀)	"
<i>Lycaena Euphemus</i> Ochs.	9	19	33 (fig. 1 a, ♂ b,c, ♀)	[31.XII.1852]
<i>Lycaena Erebus</i> Fabr.	"	"	33 (fig. 2 a,b, ♂ c, ♀)	"

<i>Lycaena Arion</i> L.	"	"	33 (fig. 3 a,b, ♂)	"
<i>Lycaena Meleager</i> Esp.	"	"	33 (fig. 4 a, ♂ b,c, ♀)	"
<i>Lycaena Meleager</i> Var. <i>Stevenii</i> Hbr.	"	"	34 (fig. 1 a,b, ♂ c, ♀)	"
<i>Lycaena Jolas</i> Ochs.	"	"	34 (fig. 2 a, ♂ b,c, ♀)	"
* <i>Lycaena Aegon</i> Var. <i>Lapponica</i> mihi	"	"	34 (fig. 3 a, ♂ b,c, ♀)	"
* <i>Lycaena Aegon</i> Var. <i>Aegiades</i> mihi	"	"	34 (fig. 4 a, ♂ b,c, ♀)	"
* <i>Polyommatus Chryseis</i> Var. <i>Siberi</i> Keitel	"	"	35 (fig. 1 a,b, ♂)	"
<i>Lycaena Pylaon</i> Fisch. v. Waldh.	"	"	35 (fig. 3 a,b, ♂); 36 (fig. 4, ♀)	"
<i>Lycaena Cyanecula</i> Herr.-Sch.	"	"	36 (fig. 2 a,b, ♂)	"
<i>Lycaena Corydonius</i> Herr.-Sch.	"	"	36 (fig. 3 a,b, ♂)	"
<i>Lycaena Myrrha</i> Herr.-Sch.	"	"	36 (fig. 5 a,b, ♂ c,d, ♀)	"
<i>Lycaena Endymion</i> (<i>Panagaeta</i> H.-Sch.)	"	"	36 (fig. 6 a,b, ♀)	"
<i>Lycaena Alexis</i> var.	"	"	35 (fig. 2, gynandr.)	"
<i>Lycaena Argus</i> Abar.	"	"	35 (fig. 4, ♂)	"
<i>Thecla Rubi</i> var.	"	"	36 (fig. 1, ♂)	"
<i>Nemeobius Nogelii</i> Kind.	"	"	35 (fig. 5 a, ♂ b,c, ♀)	"
<i>Nemeobius Lucina</i> L.	"	"	35 (fig. 6 a, ♂ b,c, ♀)	"
<i>Lycaena Bella</i> Bisch.	10	21	37 (fig. 1 a,b, ♂)	[31.VII.]1853
<i>Lycaena Hesperica</i> Ramb.	"	"	37 (fig. 2 a, ♂ b,c ♀)	"
<i>Lycaena Eroides</i> Friv.	"	"	37 (fig. 3 a,b, ♂)	"
<i>Lycaena Polona</i> H.-Sch.	"	"	37 (fig. 4 a,b, ♂)	"
* <i>Lycaena Astrea</i> Kind.	"	"	37 (fig. 5 a,b, ♂ c, ♀)	"
<i>Lycaena Cyane</i> Evm.	"	"	39 (fig. 1 a,b, ♂ c,d, ♀)	"
<i>Lycaena Pheretiades</i> Evm.	"	"	39 (fig. 2 a,b, ♂)	"
<i>Lycaena Hoffmannseggii</i> Zell.	"	"	39 (fig. 3 a,b, ♀)	"
<i>Lycaena Arion</i> var.	"	—	38 (fig. 1 a,b, ♀ 2 a,b, ♂)	"
<i>Lycaena Arion</i> aberr.	"	—	38 (fig. 3 a,b, ♀)	"
<i>Lycaena Corydon</i> aberr.	"	—	38 (fig. 4)	"
<i>Lycaena Argus</i> var.	"	—	38 (fig. 5)	"
<i>Lycaena Adonis</i> var.	"	—	38 (fig. 6)	"
<i>Lycaena Dorylas</i> var.	"	—	38 (fig. 7)	"
<i>Lycaena Alexis</i> var.	"	—	38 (fig. 8)	"
<i>Lycaena Alexis</i> aberr.	"	—	38 (fig. 9)	"
<i>Lycaena Corydon</i> var.	"	—	39 (fig. 4)	"
<i>Polyommatus Hipponoe</i> var.	"	—	39 (fig. 5)	"
<i>Polyommatus Phlaeas</i> aberr.	"	—	39 (fig. 6 a,b)	"

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