ABSTRACT. Nomenclatural status is assessed for the 75 Catocala names authored by William Henry Edwards, Augustus Radcliffe Grote (including Coleman T. Robinson), and Achille Guenée. Three neotypes and 46 lectotypes are designated, and six new or revised synonymies are presented. Historical and biographical notes on these authors and the collections on which they based their descriptions are provided. Additionally, the unpublished Catocala paintings by the early North American naturalist John Abbot are analyzed in detail for the first time.

Additional key words: taxonomy, neotypes, lectotypes, collections, history, biography.

The holarctic genus Catocala Schrank (1802) is one of the most species-rich genera in the large moth family Noctuidae, with over 210 species split approximately equally between the Nearctic and Palearctic regions. Despite the fact that Catocala are large, colorful, and common moths that have been popular with lepidopterists for centuries, there has been no definitive systematic revision published for the entire genus, and the most current work treating all the Nearctic species is now approaching nearly a century old (Barnes & McDunnough 1918b; the most recent checklist covering the Nearctic taxa is Hodges et al. 1983).

The present paper is the last in a series on the taxonomy of the Nearctic Catocala appearing in advance of a Fascicle on the genus for the Moths of America North of Mexico. In the first two papers in the series (Gall 1990, Gall & Hawks 1990) we addressed 56 of the 347 names comprising the synonymy of the Nearctic Catocala, focusing on type material at the Field Museum of Natural History (Chicago) and the Museum of Comparative Zoology (Harvard University), and designating 32 lectotypes. Herein, we address 75 of the remaining Nearctic Catocala names authored by William H. Edwards, Augustus R. Grote, and Achille Guenée during the 19th century, designating 46 lectotypes and 3 neotypes, and establishing six new or revised synonymies and status amendments. Table 1 summarizes our taxonomic decisions.

This paper is divided into separate sections for Edwards, Grote, and Guenée, to highlight the biographical and type disposition issues particular to each author. Each section treats available names (species and subspecies) and then unavailable names (infrasubspecific entities such as “aberration”), respectively, in alphabetical order. Although names deemed to be infrasubspecific are unavailable under the International Code of Zoological Nomenclature (ICZN 2000), and do not require formal treatment, we treat them here because we feel omitting them is a false economy that ultimately hampers revisory work, especially for groups like Catocala with lengthy and complex synonymies and historical literatures.

NOMENCLATURAL PROTOCOL

The terms “form” and “variety” were used habitually in descriptions of new taxa by the Nearctic Catocala workers of the late 19th and early 20th centuries, and the tradition in the genus at that time was to apply these two terms in an infrasubspecific manner. However, without knowing this custom, it is often impossible to deduce infrasubspecific intent from the texts of the original descriptions alone, and the custom was certainly not applied universally. Fortunately, the earlier Catocala monograph by Barnes and McDunnough (1918b) and the lepidopteran checklists of Barnes and McDunnough (1917) and McDunnough (1938) indicate the availability previously deduced for such names. Because this complex and species-rich genus has never been fully revised, we opted to reassess availability for each “form” and “variety” name. The reason we did this is that infrasubspecific names, which are otherwise excluded from zoological nomenclature, become formally available if they are used later in a clearly subspecific or specific manner. In such instances, the name takes the date and authorship of the person(s) who used it at the elevated rank (see Articles 10.2 and 45.6 of the Code). Thus, if an original description of a Catocala suggested subspecific rank according to Article 45.6.4, but the Barnes and McDunnough monograph and checklists indicated that infrasubspecific rank had been previously deduced, we traced the name through the literature to insure that infrasubspecific usage had indeed been intended and had remained consistent. Discrepancies are treated in the accounts for individual names.
The terms "type" and "types" were also used in the majority of the original descriptions of Nearctic Catocala, often loosely. Because the texts for many of the descriptions could be termed telegraphic at best, we assumed the existence of syntypes when the singular "type" was used but the number of specimens was not otherwise readily and explicitly determinable. Often, type specimens for particular names were present in two or more institutional collections. We usually found evidence leading us to favor material from one institution, either on the basis of the descriptions per se, specimen labels, or related published information. The order of preference among institutional collections varies by author, and we discuss these and related idiosyncrasies (e.g., missexed specimens) as appropriate. When we were unable to determine a precedence among available syntypes, we normally selected the specimen from the institution containing most of the author's collection.

In most species of Nearctic Catocala there is complex individual variation in wing pattern, as well as parallel polymorphs that occur in both closely and more distantly related species. Largely because of this, a number of species boundaries among Nearctic Catocala remained poorly understood until our recent field and rearing studies covering the entire fauna. Moreover, many Catocala species are simply difficult to distinguish from one another, even when species' boundaries are well known (indeed, a number of the syntypic series for names in this genus contain more than one Catocala species). These problems are especially manifest in the group of large, pink-hindwinged Catocala that feed as larvae on willows and poplars. The principal issue with the willow/poplar feeding taxa is that the extent of infrapopulational variation is far greater than previously understood. The group in fact consists of a much smaller array of species than indicated in the most recent faunal checklist by Hodges et al. (1983). A large number of the available names is referable to only five wide-ranging, morphologically variable, and difficult to separate Rocky Mountain and Pacific coast species: faustina Strecker, hermitia Hy. Edwards, californica Edwards, semirelleta Grote, and junctura Walker. Because these willow/poplar feeders also tend to have the most tangled nomenclatural histories, we feel it is imperative to fix all the involved names firmly. Thus, in this paper, we have designated a neotype for any available name that refers to a willow/poplar feeding taxon for which original type material is apparently no longer extant.

Nearctic Catocala type specimens are distributed in many institutional collections. However, the overwhelming majority of these types are at only eight institutions: the Academy of Natural Sciences of Philadelphia (ANSP), the American Museum of Natural History (AMNH), the Carnegie Museum of Natural History (CMNH), the Field Museum of Natural History (FMNH), the Museum of Comparative Zoology (MCZ), the Natural History Museum (London) (BMNH), the National Museum of Natural History (USNM), and the Yale Peabody Museum of Natural History (YPM). Types of Catocala are maintained in separate lepidopteran type collections at most of these institutions, but remain integrated with the general collections at others (e.g., the Strecker material at the FMNH, and the main historical series at the BMNH).

**William Henry Edwards**

W. H. Edwards was one of the most highly acclaimed American lepidopterists of the 19th century. His life and accomplishments have been well chronicled (see e.g., Mallis 1971), and he is probably best known for his monumental three-volume treatise *The Butterflies of North America*. W. H. Edwards was also the first American to focus on the Nearctic Catocala, naming a total of 10 new species in 1864.

During the 19th century, many of Edwards' Catocala types apparently were extant in Philadelphia in the American Entomological Society collection, but by the time Beutenmüller was working on his revision of the genus, many of the types had vanished. Beutenmüller (1918a:44) stated: "These were supposed to be with the American Entomological Society, but I could not find them there nor in any other collection. I consequently wrote to W. H. Edwards shortly before his death [in 1909] asking for information on the matter and he informed me that all his Catocala went to Mr. Julius Meyer, Brooklyn, N.Y. After Mr. Meyer's death his collection was bought by the Kny-Scheerer Co., New York, and Dr. G. Lagai writes me that the Catocala part of the same was sold to Hon. Walter Rothschild, Tring, London, England. If Edwards' types are still extant the same will probably be found in the Rothschild collection."

We have searched throughout the North American catocalines at the BMNH, and have not found any definite Edwards types in either the main systematic, Rothschild, or Oberthur collections. However, in the "Mixed Authors" type area at the BMNH is a drawer containing 34 specimens of 16 Catocala species, including representatives of each of the Catocala authored by Edwards, except for *sinalis* Edwards. The material in this drawer had been segregated out of the Rothschild collection. A single typed sheet accompanies this drawer, on which are listed Edwards' and Meyer's *Catocala* names, along with the statement:
Table 1. Synopsis of taxonomic assessments and actions taken in this paper pertaining to names in the moth genus Catocala Schrank. Institutional abbreviations are as listed in the text section Nomenclatural Protocol; additionally, RUPM = Roemer und Pelzeraeus Museum, Germany, NYSM = New York State Museum, Albany. Note under the holotypes that a petition (Case 3210) is currently pending at the ICZN to suppress polygama Gueneé, an unused senior synonym of alabanae Grote.

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The following are W. H. Edwards' species which Beutenmüller stated went to the Meyer Coll. and types ought to be in Tring.” The typed sheet is undated, but almost certainly predates 1974 (M. Honey pers. com. 1999).

A type of *Catocala gisela* Meyer is in this drawer, and this suggests the material is indeed from Meyer, and is that referred to by Beutenmüller (1918a). The representative specimens of Edwards' species in the drawer all bear labels in what appears to be A. Rogenhofer's handwriting, giving the collecting locality and other details, as well as stating “Type.” However, the label data on most of these supposed Edwards types do not correspond to what appears in the respective original descriptions by Edwards. For example, the specimen of *Catocala marmorata* Edwards is labelled “Ky.” (=Kentucky) whereas the original description calls for Yreka, California, and its abdomen is also intact, contradicting Strecker (1874:73), who figured the *marmorata* type and stated that the “abdomen is wanting in the single example so far known;” the specimen of *Catocala briseis* Edwards is labelled “Canada” whereas the original description calls for one specimen from the Catskills [New York] and one specimen from Rhode Island, and both of these two syntypes have already been located in other collections; and so forth. Thus, we feel these BMNH specimens are not Edwards’ types, but rather are specimens that were considered to be typical, or compared to the types (or perhaps even asserted to be types during the several transfers of Edwards’ material, to enhance their monetary value).

Although Beutenmüller (1918a) indicated he could not find Edwards' *Catocala* types at the ANSP, we readily located one of his two *briseis* syntypes in the main ANSP collection that apparently had not previously been segregated into the type cabinets. We have also explored the CMNH collection for possible Edwards *Catocala* types, with limited success (see our notes on the ANSP and CMNH below under A. R. Grote). Another collection known to have been utilized heavily by Edwards, Grote, and Strecker in the 1860's and 1870's was that of Mrs. Bridgham, from Rhode Island. In 1991, the senior author located the Bridgham family’s collection at the Smithfield branch of the Audubon Society of Rhode Island, and its specimen material was transferred to the Yale Peabody Museum of Natural History in 1992 (about 1800 specimens were

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<td>revised synonymy</td>
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<td>1878</td>
<td>BMNH</td>
<td>synonym of aestreis Strecker (1874)</td>
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</tr>
<tr>
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<td>1876</td>
<td>BMNH</td>
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</tr>
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<td>1883</td>
<td>NYSM</td>
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<td>1864</td>
<td>ANSP?</td>
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<td>Edwards W.H.</td>
<td>1864</td>
<td>ANSP?</td>
<td>full species</td>
<td>no change</td>
</tr>
</tbody>
</table>
| vidua            | Gueneé           | 1852  | no type  | replacement name for vidua (J. E. Smith 1797) | no change                 

| Table 1: Continued. |

salvaged, and the Victorian-era cabinet remained with the Audubon Society; Gall 1995). A number of the Bridgham specimens bear Grote determination labels, and syntypes for all *Catocala* species that Edwards (1864) cited explicitly as coming from the Bridgham collection were extant and identifiable. The Bridgham collection is almost unquestionably an uncited source for all *Catocala* that Edwards authored that are native to the eastern USA. Our procedure for W. H. Edwards’ names is therefore to give precedence first to type material from any explicitly cited collection, then to Bridgham (YPM), and then to ANSP/CMNH.

Available Names


The original description states “I have seen but two individuals of this species, one of which was taken by me in the Catskills in July, 1861; the other is in the fine collection of Mrs. Bridgham, taken in Rhode Island.” One unlabeled male ex Bridgham collection is at the YPM, and a female labeled as *briseis* by Edwards is at the ANSP. We give precedence to the labeled ANSP female, and to clarify application of the name we
hereby designate it as LECTOTYPE for briseis (Fig. 1a). The lectotype bears the labels “briseis” and “LECTOTYPE/Catocala briseis/Edwards 1864/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to the Catskill [Mountains], [New York, USA]. We recognize Catocala briseis as a full species.


The original description does not state the number of types. Although Streckeck claimed to have figured the type of californica, Barnes and McDunnough (1918b:24–25) provided credible evidence that Streckeck’s specimen was not from the type series. They also located a specimen at the CMNH with suitable locality data “which proved to be what has generally been known as mariana [Hy:] Edwards,” and stated “We propose, therefore, to consider this specimen as typifying the true californica and list mariana as a synonym.” We consider Barnes and McDunnough’s discussion and subsequent proposal to constitute a valid neotype designation for californica, meeting the criteria listed in Article 75 of the Code. We show their neotype in Fig. 1b. The type locality is Yreka, [Siskiyou County,] California [USA]. We recognize Catocala californica as a full species.


The original description states “a single specimen taken in Sonoto Valley, by Mr. Henshaw, July, 1874.” This specimen, the holotype by monotypy, is at the ANSP (ANSP Type #7719). The type locality is Sonoto Valley, [Arizona, USA]. The name editha has previously been tabulated in the Neurect literature as a subspecies of Catocala amatrix (Hubner, [1813]). However, the editha holotype falls within the normal range of variation seen in nominate amatrix from elsewhere in North America (the infrasubspecific form “pallida” Barnes & McDunnough (1918b), with silver-white forewing shading and a reduced hindwing medial band, is usually listed as a synonym of editha; specimens of “pallida” occur sporadically in the western Plains states and more consistently in the Rocky Mountains). We recognize Catocala editha as a synonym of Catocala amatrix (Hubner) (NEW SYNONYMY).


The original description does not state the number of types, but indicates “Mrs. Bridgham’s Collection.” A series of 12 gracilis ex Bridgham collection is at the YPM. One male bears a handwritten label “gracilis? Edw.” in Grove’s handwriting, unquestionably dating from around the time of Grove’s stated uncertainty about the name (Grove 1877:169–170). To clarify application of the name we hereby designate this male as LECTOTYPE for gracilis (Fig. 1c). In addition to the above label, the lectotype bears the labels “Samuel Willard Bridgham/Collection/Presented Rhode Island/Audubon Society, May 1992” and “LECTOTYPE/Catocala gracilis/Edwards 1864/Desig. Gall & Hawks 2002.” The type locality is not specified, but is probably Rhode Island, USA. We recognize Catocala gracilis as a full species.


Of the type of marmorata, Streckeck (1874:73) rather amusingly stated “abdomen is wanting in the single example so far known . . . the unique type from which the annexed figure was drawn is in the Museum of the Am. Ent. Soc.; its sex can not be determined, as, unfortunately, the abdomen, as I before stated, is non est, but from the general appearances I should suppose the example in question to be a ?.” Subsequently, Barnes and McDunnough (1918b:20) offered: “at the present time it is misplaced or lost . . . Fortunately, Streckeck’s figure leaves no doubt as to the identity.” We have not been able to locate this specimen at the ANSP, and the specimen of marmorata in the box of supposed W. H. Edwards types at the BMNH has an abdomen and bears the label “Ky.,” contradicting the stated type locality of Yreka, California. The original description did not state the number of types, but it seems clear from the early literature accounts that only one specimen was known at the time. We therefore accept the specimen figured by Streckeck (1874, Plate IX, Fig. 6) as the holotype by monotypy for marmorata. The type locality of Yreka, California [USA] is erroneous, since marmorata has a well-defined distribution from the mid-Atlantic states west to Missouri and Arkansas (Peacock & Gall 2001). We recognize Catocala marmorata as a full species.


The original description does not state the number of types, but indicates “Mrs. Bridgham’s Collection. New York.” There are two specimens of minuta ex Bridgham collection at the YPM. One male bears a label “minuta/Ed." in Grove’s handwriting, and another bears a label “undescribed A,” apparently in Edwards’ handwriting. These correspond to minuta and its undescribed variety in Edwards’ description, and we
hereby designate the male with Grote's label as LECTOTYPE for minuta (Fig. 1d). In addition to the above label, the lectotype bears the labels "Samuel Willard Bridgham/Collection/Presented Rhode Island/Audubon Society, May 1992" and "LECTOTYPE/Catocala minuta/Edwards 1864/Desig. Gall & Hawks 2002." The type locality is New York [USA]. We recognize Catocala minuta as a full species.


The original description does not state the number of types, nor the collection from which Edwards made his description, indicating only "Philadelphia: Washington." There are no nebulosa ex Bridgham collection at the YPM. At the ANSP collection are two old, unlabeled male Catocala nebulosa. However, we are not certain that these ANSP specimens were among those available to Edwards. Since the original description of nebulosa is diagnostic, and there has been no confusion as to the applicability of the name, we choose not to take any formal action. We recognize Catocala nebulosa as a full species.


The original description does not state the number of types, nor the collection from which Edwards made his description. At the ANSP collection is an old male bearing a label "C. minuta/parvula," pinned in a distinctive style that matches that of other Catocala labeled as types at the ANSP. To clarify application of the name, we hereby designate this male as LECTOTYPE for parvula (Fig. 1c). The lectotype bears the aforementioned label and "LECTOTYPE/Catocala parvula/Edwards 1864/Desig. Gall & Hawks 2002." The type locality is New York [USA]. The name parvula is a synonym of Catocala minuta Edwards, and represents specimens with a large dark patch along the forewing inner margin.


The original description does not state the number of types, but indicates "From Mr. Wilt's collection, Philadelphia." There are several old specimens of serena at the ANSP, as well as at the CMNH, but we are not certain these were among the specimens available to Edwards. Since the original description of serena is diagnostic, and there has been no confusion as to the applicability of the name, we choose not to take any formal action. We recognize Catocala serena as a full species.


The original description does not state the number of types, but indicates "Mrs. Bridgham's Collection." Three specimens of similis ex Bridgham collection are at the YPM, and to clarify application of the name we hereby designate a male as LECTOTYPE for similis (Fig. 1f). The lectotype bears the labels "Samuel Willard Bridgham/Collection/Presented Rhode Island/Audubon Society, May 1992" and "LECTOTYPE/Catocala similis/Edwards 1864/Desig. Gall & Hawks 2002." The type locality is not specified, but is probably Rhode Island, USA. We recognize Catocala similis as a full species.


The original description does not state the number of types, but indicates "From Mr. Newman's collection, taken at Philadelphia; also Mr. Jung's collection, at Hoboken, New Jersey." There is an old male at the ANSP, pinned in a distinctive style matching other Catocala labeled as types at the ANSP. To clarify application of the name, we hereby designate this male as LECTOTYPE for tristis (Fig. 1g). The lectotype bears the label "LECTOTYPE/Catocala tristis/Edwards 1864/Desig. Gall & Hawks 2002." The type locality can not be specified further. Although Forbes (1954) treated tristis as a synonym of Catocala andromeda Guenée (1852), Hodges et al. (1983) elevated tristis as a northern subspecies of andromedae. The differences cited for tristis are indeed not geographically definable, as Forbes implied, and so we hereby place tristis as a synonym of andromedae (REVISED SYNONYMY).


The original description does not state the number of types, and indicates "Taken by Mr. B. D. Walsh in Southern Illinois." Grote (1873:163) stated that the species "is still unknown to me. I believe the types perished in the Chicago fire," and Smith (1893) apparently followed him in stating the types were destroyed. However, the 14 February 1879 minutes of the Proceedings of the Monthly Meetings of the Entomological Section of the Academy of Natural Sciences, Philadelphia indicate (Anonymous 1879:iii): "Mr. Cresson exhibited the type specimens of Catocala editha Edwards, and Catocala walshii Edwards, which had been sent to him by Mr. William H. Edwards, for the collection of the American Entomological Society." There
are several old specimens at the ANSP and CMNH labeled as walshii, but we can not say for certain which of these might be the Cresson specimen(s).

The type locality of southern Illinois suggests walshii refers to Catocala junctura Walker, the only large Catocala species in that geographic region that matches the original description, and walshii has been treated as a synonym of junctura since Barnes and McDunnough (1918b:29). However, because (a) we have been unable to locate a type, (b) other published type localities of Edwards are erroneous, and (c) a willow/poplar feeding taxon is involved, we feel the name walshii requires explicit clarification. We therefore designate a male from among the aforementioned specimens at the ANSP as NEOTYPE for walshii (Fig. 1h). The neotype bears the label “Catocala/walshii” and “NEOTYPE/Catocala walshii/Edwards 1864/Desig. Gall & Hawks 2002.” The type locality is southern Illinois [USA]. The name walshii is a synonym of Catocala junctura Walker.

**Augustus R. Grote**

Augustus Radcliffe Grote was one of the foremost authorities on Nearctic moths in the 19th century. He published profusely throughout the Noctuidae, and authored 45 Nearctic Catocala names, more than any other worker. His earliest Catocala descriptions were published in 1864 and 1866 (with Coleman T. Robinson), and in 1872, Grote presented the first revision of the entire Nearctic Catocala fauna in the Transactions of the American Entomological Society. This revision would doubtless have been even more comprehensive, if it were not for the fact that Grote apparently lost the original manuscript for it.

Grote described new species from specimens in a wide array of personal and institutional collections, and hence his types are known to be widely scattered. The BMNH purchased most of Grote’s collection in 1881/1882, and this is the principal repository of his type material. For Grote Catocala types, the ANSP is as important as the BMNH, as Grote remarked in his 1872 revision that “most of the material I have used is in the collection of the American Entomological Society, together with Mr. Edwards’ specimens kindly loaned me for examination.”

Although we located types for most Grote names fairly readily, we encountered some difficulties tracking down types from his earliest publications, notably the Catocala he authored with C. T. Robinson. This is hardly a novel situation, as lepidopteran systematists have speculated for some time on the whereabouts of apparently lost Grote and Robinson types. Beutennmüller (1892) provides an accounting of Lepidoptera types known to be at the AMNH from the Grote and Robinson collection, but no Catocala are included in that list. Smith’s (1893:12) discussion is instructive: “Mr. Grote writes concerning the work by Mr. Robinson and himself: ‘The collection on which these and all our other joint entomological writings were based, is now in the possession of the American Entomological Society.’ If that was true in 1872, it certainly is not so now, because but a very few of the species are at present in that collection. Of these, a very small proportion only have a written label. Some have a little printed ‘type’ label; but nothing to indicate of what it is the type. In at least two cases I found these ‘type’ specimens under names with which they had no possible relationship. Fortunately the excellent figures given in illustration of the papers referred to, make it possible to ascertain the names of which the specimens are typical. But many species have disappeared, leaving no trace; in whose hands they are at present I have been unable to ascertain.”

Grote moved to Germany in 1884 after the sale of his collection to the BMNH, living first in Bremen and then later in Hildesheim until his death in 1903. He was actively collecting while at Hildesheim (e.g., Grote 1897, Stein 1999), and Horn and Kahl (1935:97) indicated that Grote’s material was also deposited “ex parte 1893 an Mus. Bremen.” Since it seemed possible that the missing Grote and Robinson material to which Smith (1893) referred could be in Germany, we visited the Museum fur Naturkunde of Humboldt University in Berlin (ZMUH), the Ubersee-Museum in Bremen and the Roemer- und Pelizaeus Museum in Hildesheim in April 2000 to search for types. We were able to review the entire lepidopteran holdings of the Roemer Museum, all the Nearctic Lepidoptera at the Ubersee Museum, but only the catoelines at ZMUH. The ZMUH has 24 drawers of Catocala, and it contains the types for two Grote Catocala species that he explicitly indicated were in that institution, as well as a number of specimens that he and Robinson determined. The Ubersee Museum collection has 4 drawers of Grote’s Nearctic Lepidoptera, two drawers of which are exclusively Catocala, but no types. The Roemer Museum collection, presently housed at the Biology Department of Hildesheim University, has 13 drawers of Grote’s Nearctic Lepidoptera, several of which contain Catocala, including the type of Catocala moderna Grote (as stated in the original description). The Roemer also has the Palearctic Lepidoptera that Grote assembled from Hildesheim and surrounding areas.

We have also examined the Lepidoptera collection at the Buffalo Museum of Science, which contains the holdings from the Buffalo Society of Natural History,
with which Grote was affiliated during the 1870's when he lived in Buffalo. We found no Grote Catocala types there. Arnett et al. (1993:209) state that "major portion of [Grote's] collection were given to the Museum of Natural History (BMNH) and to the Museum of Natural History of Sao Paulo," and thus Brazil is the only other potential repository for Grote and Robinson material of which we are aware. Insofar as Catocala are concerned, the Museu de Zoologia in Sao Paulo currently has only a small number of specimens, representing common Nearctic and Palearctic species. Among the Sao Paulo specimens are one cara Gueneé, one concumbens Walker, and one ilia (Cramer), all bearing Grote determination labels in his handwriting (C. R. F. Brandao pers. com. 1999).

At this juncture we believe that the missing lepidopteran types of Grote and Robinson are probably not extant in Germany, and we are more confident still that this is the case for their Catocala types. In sum, then, definitive and probable type material for the Catocala authored by Grote, as well as Grote and Robinson, exist in the collections of the ANSP, BMNH, AMNH, ZMHU, CMNH and at Hildesheim University. The presence at CMNH of Grote Catocala is the result of an extensive exchange of material between ANSP and CMNH in the 1960's, that sent Lepidoptera from ANSP to CMNH, and Orthoptera from CMNH to ANSP (J. Rawlins pers. com. 1999). At CMNH, these former ANSP specimens are identifiable by labels indicating they were part of CMNH accession 20359.

In most instances, Grote types in the aforementioned institutional collections bear one or more labels indicating they are types, although this is not universally so (e.g., the BMNH holotype of Catocala in-nubens var. flavidalis Grote, mentioned by Beutenmüller 1903b). The label situation at the BMNH, where the bulk of Grote's collection resides, merits further elaboration. Many of Grote's Catocala types at the BMNH have apparently been identified as such by A. G. Butler (or his curatorial contemporaries), whose habit was to write the taxon name and the word "type" on the reverse of the attached BMNH accession label (M. Honey pers. com. 1991). Typically, these types also bear a red-bordered label with the taxon name followed by the word "type," handwritten by Grote. Most of Grote's other Catocala specimens at the BMNH bear no type labels, but a small number of these other specimens bear blue-bordered labels with only the taxon name, again in Grote's handwriting (in at least some other noctuid groups, Grote's habit appears to have been to use a red-bordered label when one type existed, and a blue-bordered label when more than one existed; E. Quinter pers. com. 2001). The blue-bordered labels often appear on single exemplars of Catocala named by Grote in the 1870's, and by Grote and Robinson in 1866 (one such specimen of scintillans Grote & Robinson is also labeled as type by Butler, the only blue-bordered Grote & Robinson taxon so labeled at the BMNH). A few specimens with the blue-bordered labels also bear the red-bordered type labels: for example, the type of sinuosa Grote, named in 1879, and the types of coelebs Grote and semireliecta Grote, both of which were named in 1874. Based on the distribution of these red and blue-bordered labels among the BMNH Catocala, we believe that specimens bearing such labels were among those on which Grote based his type concepts, and so we treat them all as available type material.

We also note here that the two published listings of Nearctic Catocala types at the BMNH (Beutenmüller 1903a, Hampson 1913; both were prepared by Hampson) are not concordant. The former tabulates 27 taxa, the latter 31 taxa. There are 25 taxa common to both the 1903 and 1913 listings. Six taxa appear only in the 1913 listing (beemiana Grote, crataegii Saunders, elec­tilis Walker, nurus Walker, selecta Walker, subnata Grote), and two appear only in the 1903 listing (bunkeri Grote, sordida Grote). In addition, the types of albomacula Butler, flavidalis and scintillans Grote & Robinson are omitted from both the 1903 and 1913 listings, despite the fact that the main collection at the BMNH has specimens of each that bear type labels written by Butler. Because of these omissions, the dropping of bunkeri and sordida between 1903 and 1913, and the inconsistent tabulation of the Walker types (these had long since been established e.g., see Grote & Robinson 1868), we view with some reservation Hampson's compilations of type specimens of Nearctic Catocala at the BMNH.

Thus, our approach for Grote Catocala is to give precedence first to specimens having the most appropriate label data in the most appropriate collections, and then to the BMNH and ANSP/CMNH collections, in that order. However, for taxa described in Grote's (1872) revision, the ANSP/CMNH is given initial precedence. For taxa for which we failed to locate a labeled type, we choose BMNH specimens with blue-bordered Grote labels, if possible. Although the published type localities for Grote names usually match data on the specimens labels, this is not universally so. The most common mismatches involve the handwritten locality data that were added subsequently to the printed "Grote Coll./81-116" accession labels by BMNH curatorial staff. In such instances, we give precedence to Grote's published type localities.
Available Names

*Catocala abbreviatella* Grote, 1872. Trans. Amer. Entomol. Soc. 4:14

The original description states “♀ . . . Two specimens from Texas (Belfrage).” There are only two *abbreviatella* at the ANSP, one male and one female, both old and bearing no labels but pinned in a similar manner. In Drawer 25 at the BMNH is one male bearing a conflicting locality label of “Kansas.” The pair at the ANSP appear to be the syntypes, and to clarify application of the name we hereby designate the male as LECTOTYPE for *abbreviatella* (Fig. 2a). The lectotype bears the label “LECTOTYPE/Catocala abbrevi-
atella/Grote 1872/Desig. Gall & Hawks 2002.” The type locality is Texas [USA]. We recognize Catocala abbreviata as a full species.


The original description does not state the number of types. In Drawer 29a at the BMNH is a female labeled as type by Grote, bearing a red BMNH type disc. To clarify application of the name we hereby designate it as LECTOTYPE for alabamae (Fig. 2b). The lectotype bears the labels “Alabama/Grote Coll./81-116.”, “United States/81-116” and on the reverse: Catocala/alabamae/Type Grote”, “Catocala/alabamae/Type Grote”, “LECTOTYPE/Catocala alabamae/Grote 1875/Desig. Gall & Hawks 2002.” The type locality is Demopolis, [Marengo County,] Alabama, [USA]. We recognize Catocala alabamae as a full species.


The male lectotype is at the MCZ, and was designated by Gall (1990:121). The type locality is Dallas County, Texas, [USA]. We recognize Catocala adoptiva as a synonym of Catocala delilah Strecker.

Catocala angusi Grote, 1876a. Can. Entomol. 8:229

We consider Beutenmüller’s (1907:150) action to constitute a valid lectotype designation for angusi under Article 74 of the Code. The male lectotype is at the AMNH. The type locality is West Farms, New York City [Bronx County, USA], fide Beutenmüller’s statements. We recognize Catocala angusi as a full species.


The original description states “Texas. (Boll. No. 104).” In Drawer 25 at the BMNH is a male labeled as anna by Grote, not as type. An identically labeled male is at the ANSP. A total of five other new Catocala were described by Grote in the article in which anna appeared, and the types for these five other taxa are at the BMNH. We thus give precedence to the BMNH specimen in Drawer 25, and to clarify application of the name designate it as LECTOTYPE for anna (Fig. 2c). The lectotype bears the labels “anna Grote”, “U. S. America/Grote Coll./81-116.”, “United States/81-116” and on the reverse: Catocala/anna/Grote”, “Catocala/anna/Grote”, “LECTOTYPE/Catocala anna/Grote 1874/Desig. Gall & Hawks 2002.” The type locality is Texas [USA]. The name anna is a synonym of Catocala amestris Strecker.

Catocala arizonae Grote, 1873. Can. Entomol. 5:163

The original description states “I have received this species from Professor Townend Glover, of the Agricultural Department at Washington. It is labelled ‘Borders of Arizona and New Mexico.—Dr. Palmer.” This male, the holotype by monotypy, is at the ANSP (ANSP Type #7659). The type locality is the border of Arizona and New Mexico [USA]. The type of arizonae is a specimen of Catocala junctura Walker, and we hereby place arizonae as a synonym of junctura (NEW SYNONYMY).


The original description states “Numerous coincident specimens from Massachusetts, Rhode Island, New York and Pennsylvania examined.” Among five old specimens at the ANSP is a female bearing the machine-printed labels “Mass.” and “Coll. of Acd./Nat. Sci. Phila.” A male in Drawer 3a at the BMNH bears a blue-bordered Grote label. We give precedence to the BMNH specimen, and to clarify application of the name we hereby designate this male as LECTOTYPE for badia (Fig. 2d). The lectotype bears the labels “U. S. America/Grote Coll./81-116.”, “United States/81-116” and on the reverse: Catocala/badia/Gr. + Rob.,” “Catocala Schrank/badia G + R.”, “LECTOTYPE/ Catocala badia/Grote & Robinson 1866/Desig. Gall & Hawks 2002.” The type locality cannot be restricted further. We recognize Catocala badia as a full species.


The original description states “Sent me by Mr. Thomas A. Bean, under the number 574, from Illinois.” This female, the holotype by monotypy, is in Drawer 18 at the BMNH. The type locality is Illinois [USA]. The name beaniana is a synonym of Catocala mesketi Grote.

Catocala chelidonia Grote, 1881c. Papilio 1:159

The original description states “39 . . . Numerous specimens of this very distinct form in the collection [Neumoegen] before me.” A male type is at the USNM, and to clarify application of the name we hereby designate it as LECTOTYPE for chelidonia (Fig. 2f). The lectotype bears the labels “Prescott/Aizona.”, “Type No./33987/U.S.N.M.”, “TYPICUM/ SPECIMEN”, “Catocala Type/chelidonia/Grote”, “LECTOTYPE/Catocala chelidonia/Grote 1881/Desig. Gall & Hawks 2002.” The type locality is Prescott, [Yavapai County,] Arizona [USA]. We recognize Catocala chelidonia as a full species.
**Catocala clintoni** Grote, 1864a. Proc. Entomol. Soc. Phil. 3:89

The original description states "Hab. Eastern States. A ♀ specimen in good condition given me by Mr. Wm. A. Nason, and now in the Coll. Ent. Soc. Philadelphia." There are four *clintoni* in the ANSP collection, two with locality labels indicating Kansas and two indicating Texas, none of which match the locality of "Eastern States." In Drawer 23 at the BMNH is a female *clintoni* from New York, ex Grote collection. An old female *clintoni* at the CMNH bears a label indicating it came from accession 20359. We know that at least one type of *praeclara* Grote & Robinson ended up at CMNH as part of the CMNH/ANSP exchange on accession 20359. Because Hampson (1913) and Beutemüller (1903a) omit *clintoni* from their lists of Nearctic *Catocala* types at the BMNH, and because the original description calls for the ANSP, we believe that the CMNH specimen is more probably the holotype by monotypy. The type locality is Eastern States [USA]. We recognize *Catocala clintoni* as a full species.

**Catocala coccinata** Grote, 1872. Trans. Amer. Entomol. Soc. 4:6

The original description states "♂ ... My specimens are from Pennsylvania." A male type is at the ANSP, and to clarify application of the name we hereby designate it as LECTOTYPE for *coccinata* (Fig. 2e). The lectotype bears the labels "Penn.," "TYPE No. 7663/Catocala/coccinata/A. R. Grote," "C. coccinata/Grote/A.R.G.," "LECTOTYPE/Catocala coccinata/Grote 1872/Desig. Gall & Hawks 2002." The type locality is Pennsylvania [USA]. We recognize *Catocala coccinata* as a full species.

**Catocala coelebs** Grote, 1874c. Trans. Amer. Entomol. Soc. 5:96

The original description states "St. Catherines, August 18, No. 182, Geo. Norman Esq." This female, the holotype by monotypy, is in Drawer 4 at the BMNH. The type locality is St. Catherines, [Regional Municipality of Niagara, Ontario, Canada].

*Catocala coelebs* and *Catocala badia* Grote & Robinson have been treated for some time as closely related, distinct species. Largely monomorphic populations referable to *badia* occur along the eastern seaboard from south central Massachusetts through New Jersey and Pennsylvania; similarly monomorphic populations referable to *coelebs* occur from the Maritime Provinces of Canada through Maine and northern New England, and westward to northern Michigan, Wisconsin and the Prairie Provinces of Canada. However, the geographic ranges of these "pure" *badia* and "pure" *coelebs* populations are essentially parapatric—a small zone of overlap exists in New Hampshire, southern Maine, and northern coastal Massachusetts in which specimens with intermediate forewing patterns occur. These have been named *badia* form *phoebe* Hulst.

We have examined large series of *badia* and *coelebs* from the entire geographic range of both taxa, particularly in the zone of overlap in New England, and find no consistent way to distinguish material in the overlap area. Although we have reared a number of broods of "pure" *badia* from Connecticut and southern Massachusetts, and "pure" *coelebs* from northern Maine and Michigan, eggs from a female *coelebs* taken in southern York County, Maine produced progeny referable to both *coelebs* (several dozen adults) and *phoebe* (three adults) and intergrades. We have also found no constant differences between *badia* and *coelebs* in their larvae or the scanning electron micrograph patterns of their eggs. However, the larvae and eggs of *badia/coelebs* are separable from those of the other two closely related Nearctic Myricaceae-feeding species, *antinympha* (Hübner) and *mulic sculptura* Guénéel; in turn, the larvae of *antinympha* and *mulic sculptura* are also separable from one another.

Accordingly, we feel the observed geographic variation in *badia* and *coelebs* is more indicative of two distinct subspecies, and we hereby place the name *coelebs* as a subspecies of *Catocala badia*, new status. Grote, who described both *badia* and *coelebs*, had arrived at an essentially similar conclusion (1883a:23): "But a sight of many specimens leads me to believe that the true C. *coelebs*, with black fore wings, grades into *badia*, and is only to be regarded as a variety of it. But this could not have been predicated of the type [of *coelebs*]. The two extremes are exceedingly distinct and different looking."

**Catocala communis** Grote, 1872. Trans. Amer. Entomol. Soc. 4:9

In a discussion of *Catocala neogarna* J. E. Smith, Grote stated (1872:9) "I do not believe this [neogarna sensu Guénéel] to be the Phalaena *neogarna* of Smith. In the Berlin Museum I have named this species *Catocala communis*, while two specimens from Texas therein contained differed from the present by their brighter colored secondaries, and otherwise more nearly resembled Abbott's figure [of *neogarna* J. E. Smith]." A male type is in Drawer 155 at the Museum fur Naturkunde of Humboldt University in Berlin.
(ZMHU), and to clarify application of the name we hereby designate it as LECTOTYPE for *communis* (Fig. 2). The lectotype bears the labels “10918,” “communis/Grote & Rob./neogama Guen./[non Sm.-Abb.]/Carolina [unintelligible],” “7158,” “LECTOTYPE/Catocala communis/Grote 1872/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to [North or South] Carolina, [USA] on the basis of the lectotype label. The name *communis* is a synonym of *Catocala neogama* J. E. Smith.

**Catocala dulciola** Grote, 1881a. Papilio 1:5

The original description states “Five or six examples, all alike, have been collected by Mr. Pilate . . . The female type before me expands 44 millimetres.” A female type is at the AMNH, and to clarify application of the name we hereby designate it as LECTOTYPE for *dulciola* (Fig. 2g). The lectotype bears the labels “Catocala ♀ Type/dulciola Grote,” “No. 11742 H. Edw.,” “Type No. AMNH,” “Catocala/dulciola/Grote,” “LECTOTYPE/Catocala dulciola/Grote 1881/Desig. Gall & Hawks 2002.” The type locality is the vicinity of Dayton, [Montgomery County], Ohio [USA]. We recognize *Catocala dulciola* as a full species.

**Catocala flebilis** Grote, 1872. Trans. Amer. Entomol. Soc. 4:4

The original description states “Several specimens examined from Pennsylvania.” A male type is at the ANSP, and to clarify application of the name we hereby designate it as LECTOTYPE for *flebilis* (Fig. 2f). The lectotype bears the labels “Penn.,” “TYPE No. 7665/Catocala/flebilis/A. R. Grote,” “C. flebilis/Grote/A.R.G./Type,” “LECTOTYPE/Catocala flebilis/Grote 1872/Desig. Gall & Hawks 2002.” The type locality is Pennsylvania [USA]. We recognize *Catocala flebilis* as a full species.

**Catocala formula** Grote & Robinson, 1866. Proc. Entomol. Soc. Phil. 6:27

The original description states “A number of specimens of both sexes examined. Habitat—New York State, Rhode Island, Coll. Ent. Soc. Phila.; our own Collection and that of Mrs. S. W. Bridgman, N. Y.” A male type is at the ANSP, and to clarify application of the name we hereby designate it as LECTOTYPE for *formula* (Fig. 2h). The lectotype bears the labels “N. Y.,” “TYPE No. 7662/Catocala/formula/A. R. Grote & Rob.,” “C. formula G + R,” “LECTOTYPE/Catocala formula/Grote & Robinson 1866/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to New York [USA] on the basis of the lectotype locality label. The name *formula* is a synonym of *Catocala similis* Edwards.

**Catocala fratercula** Grote & Robinson, 1866. Proc. Entomol. Soc. Phil. 6:24

The original description lists “Habitat,—New York State. Rhode Island. Several ♀ and ♂ specimens examined.” A male type is at the ANSP, and to clarify application of the name we hereby designate it as LECTOTYPE for *fratercula* (Fig. 3a). The lectotype bears the labels “N. Y.,” “TYPE No. 7661/Catocala/fratercula/A. R. Grote & Rob.,” “C. fratercula/G + R/TYPE,” “LECTOTYPE/Catocala fratercula/Grote & Robinson 1866/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to New York [USA] on the basis of the lectotype locality label. Although Forbes (1954) placed *fratercula* as a synonym of *Catocala micromypha* Gueneé, Hodges et al. (1983) re-elevated *fratercula* as a northern subspecies. However, *fratercula* is indeed merely one of many infraspecific variants found over a wide geographic range in this species, and so we return *fratercula* as a synonym of *micromypha* (REVISED SYNONYMY).

**Catocala frederici** Grote, 1872. Trans. Amer. Entomol. Soc. 4:14

The original description lists “Two specimens from Texas (Friedrich) examined in the Berlin Museum.” These two female syntypes are in Drawer 157 at the Museum für Naturkunde of Humboldt University in Berlin (ZMHU), and to clarify application of the name we hereby designate the first female as LECTOTYPE for *frederici* (Fig. 3b). The lectotype bears the labels “10923,” “frederici/Grote & Rob./Texas. Friedrich,” “LECTOTYPE/Catocala frederici/Grote 1872/Desig. Gall & Hawks 2002.” The type locality is Texas [USA]. We recognize *Catocala frederici* as a full species.


The name *guenei* is the second published and hence unnecessary replacement name for *Catocala viduata* Gueneé (1852). The first published replacement name for *viduata* is *Catocala maestosa* Hulst (1884). Since *guenei* is a replacement name, its type locality is the same as for Gueneé’s *viduata*, namely Georgia, [USA].

**Catocala habilis** Grote, 1872. Trans. Amer. Entomol. Soc. 4:11

The original description states “A number of coincident specimens examined from Pennsylvania.” A male type is at the ANSP, and to clarify application of the name we hereby designate it as LECTOTYPE for *habilis* (Fig. 3d). The lectotype bears the labels “Penn.,” “TYPE No. 7664/Catocala/habilis/A. R. Grote,” “C. habilis/Grote/TYPE,” “LECTOTYPE/Catocala habilis/Grote 1872/Desig. Gall & Hawks 2002.” The type
locality is Pennsylvania [USA]. We recognize *Catocala habilis* as a full species.

*Catocala levetti* Grote, 1874c. Trans. Amer. Entomol. Soc. 5:95

The original description does not state the number of types. A male labelled as type by Grote is in Drawer 1 at the BMNH, bearing a red BMNH type disc. The specimen label indicates Ohio, but the original description calls for Indianapolis. Hampson (1913) and Beutenmüller (1903a) stated the type of *levetti* was at the BMNH, and we have no other reason other than this probable labeling error to believe this BMNH male is not an available syntype. To clarify application
of the name we hereby designate it as LECTOTYPE for *levettei* (Fig. 3c). The lectotype bears the labels “Ohio/Grote Coll./81-116.”, “Ohio/81-116 [and on the reverse:] Catocala/levettei/Type Grote”, “Catocala/levettei/Type Grote”, “LECTOTYPE/Catocala levettei/Grote 1874/Desig. Gall & Hawks 2002.” We give precedence to Grote’s original description and retain the type locality as Indianapolis, [Marion County, Indiana, USA]. The name *levettei* is a synonym of *Catocala judith* Strecker.

*Catocala lineella* Grote, 1872. Trans. Amer. Entomol. Soc. 4:18

The systematics of the ‘amica’ complex’ of small Nearctic *Catocala* species has been the recent focus of breeding and field work by D. F. Schweitzer and ourselves. We know of four species, three of which have available names, and one undescribed sibling species that lacks an available name. *Catocala jair* Strecker is the rarest, most distinctive, and most geographically restricted of the four species. The other three are widespread, with *Catocala amica* (Hübner) and *Catocala lineella* Grote being the most frequently encountered in most areas of eastern North America. *Catocala lineella* had been treated as a subspecies or synonym of *Catocala amica* during the 20th century, but it was restored to the rank of full species by Gall (1990).

The usage and applicability of *amica* and *jair* have been fixed in the literature for some time, and although the usage of *lineella* has been modestly stable, Barnes and McDunnough (1918b) were unaware of a type. The original description of *lineella* indicates “a number of coincident specimens.” In Drawer 34 at the BMNH is a male with a blue-bordered Grote label. To clarify application of the name we hereby designate it as LECTOTYPE for *lineella* (Fig. 3f). The lectotype bears the labels “E. U. S. America/Grote Coll./81-116.”, “19/6”, “8.”, “E. States/81-116 [and on the reverse:] Allotria/lineella/Grote”, “Catocala /Schk/lineella/Grote”, “LECTOTYPE/Catocala lineella/Grote 1872/Desig. Gall & Hawks 2002.” Grote listed the type locality for *lineella* as “Same localities as *C. anistrophila*,” which was “Eastern States, southward.” We recognize *Catocala lineella* as a full species.

*Catocala meskei* Grote, 1873. Can. Entomol. 5:161

The original description states “Lent me by Mr. O. Meske, after whom I name the species, from near Albany, N. Y., and who writes me that it has been taken in considerable numbers by a collector in that vicinity.” Although this suggests a single specimen, the number of types is not explicitly stated. To clarify application of the name we hereby designate the female at the USNM as LECTOTYPE for *meskei* (Fig. 3e). The lectotype bears the labels “August/1873.”, “Catocala/meskei/Grote/Type”, “Type/No. 305/U.S.N.M.” “Collection/O. Meske”, “LECTOTYPE/Catocala meskei/Grote 1873/Desig. Gall & Hawks 2002.” The type locality is Albany, [Albany County, New York, USA]. We recognize *Catocala meskei* as a full species.

*Catocala mira* Grote, 1876a. Can. Entomol. 8:230

The original description does not state the number of types. In Drawer 29 at the BMNH is a female with a red-bordered Grote type label, bearing a red BMNH type disc. To clarify application of the name we hereby designate it as LECTOTYPE for *mira* (Fig. 3g). The lectotype bears the labels “88”, “U. S. America/Grote Coll./81-116.”, “United States/81-116 [and on the reverse:] Catocala/mira/Type Grote”, “C. mira/Grote/Type”, “LECTOTYPE/Catocala mira/Grote 1876/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to the USA on the basis of the lectotype locality label. We recognize *Catocala mira* as a full species.

*Catocala moderna* Grote, 1900. Can. Entomol. 32:191

The original description states “Accompanying the fresh type [of *moderna*] are examples of *C. vishnata*, Guen.” The male holotype by monotypy is in Drawer 33 of Cabinet “Neu 3” at the Roemer- und Pelizaeus Museum (RUPM) in Hildesheim, Germany. The type locality is Dolores, Texas [USA]. The name *moderna* is a synonym of *Catocala maestosa* Hulst.


The original description states “Coll. Ent. Soc. Philadelphia . . . Possibly a variety of *Catocala palaeogama*, but, as several coincident specimens have occurred, it may be distinct.” There are several old, unlabeled specimens of *phalanga* at the ANSP, including one pinned in a style like that of other Grote types at ANSP. In Drawer 4 at the BMNH is a male bearing a blue-bordered Grote label. We give precedence to the BMNH male labeled by Grote, and to clarify application of the name hereby designate it as LECTOTYPE for *phalanga* (Fig. 3i). The lectotype bears the labels “U. S. America/Grote Coll./81-116.”, “var. phalanga/Grote”, “United States/81-116 [and on the reverse:] “C. palaeogama/var. phalanga/Grote”, “LECTOTYPE/Catocala phalanga/Grote 1864/Desig. Gall & Hawks 2002.” The type locality is Middle States [USA]. The name *phalanga* is a synonym of *Catocala palaeogama* Guénée, and represents specimens with a
prominent black postmedian line and black basal patch on the forewing.

**Catocala piaatrix** Grote, 1864a. Proc. Entomol. Soc. Phil. 3:88

The original description states “Coll. Ent. Soc. Philadelphia,” but does not indicate the number of specimens. In Drawer 5 at the BMNH is a male bearing a blue-bordered Grote label. There are several old males at the ANSP, but none labeled by Grote. A male now at the CMNH, ex ANSP via accession 20359, is labeled as *piaatrix* by Grote, and bears a machined locality label like that on other ANSP *Catocala* types. We give precedence to the CMNH male, and to clarify application of the name hereby designate it as LECTOTYPE for *piaatrix* (Fig. 3j). The lectotype bears the labels “N.Y.”, “Catocala/piaatrix/Grote/A.R.G.”, “Exch. A.N.S.P./C. M. Acc. 20359”, “LECTOTYPE/Catocala piaatrix/Grote 1864/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to N[ew] York [USA]. We recognize *Catocala praeclara* as a full species.


The original description lists “Hab. New York (in Coll. Buf. Soc. Nat. Sciences); Canada (J. Petit).” Three coincident specimens examined, and Smith (1893:354) states The type of *residua* is in the American Museum of Natural History from the Angus Collection.” This female is at the AMNH, and to clarify application of the name we hereby designate it as LECTOTYPE for *residua* (Fig. 4b). The lectotype bears the labels “No. 486/Coll. J. Angus/West Farms/New York City.”, “Type/No./A.M.N.H.,” “C. residua/Grote/var.,” “LECTOTYPE/Catocala residua/Grote 1874/Desig. Gall & Hawks 2002.” Because Angus often affixed a printed West Farms label as a “return address,” rather than as a locality label, we cannot be certain whether the AMNH female is from New York or Canada, and so we leave the type locality as originally published. We recognize *Catocala residua* as a full species.

**Catocala retecta** Grote, 1872. Trans. Amer. Entomol. Soc. 4:4

The original description states “A few specimens examined from the Middle States.” A male type is at the ANSP, and to clarify application of the name we hereby designate it as LECTOTYPE for *retecta* (Fig. 4c). The lectotype bears the labels “77”, “TYPE No. 7660/Catocala/retecta/A. R. Grote”, “LECTOTYPE/Catocala retecta/Grote 1872/Desig. Gall & Hawks 2002.” The type locality is Middle States [USA]. We recognize *Catocala retecta* as a full species.

**Catocala robinsoni** Grote, 1872. Trans. Amer. Entomol. Soc. 4:20

The original description states “After writing so far my kind friend, Mr. Charles A. Blake, sends me specimens of two black winged species from Pennsylvania . . .” There are several old *robinsoni* at the ANSP, pinned in a style like other Grote types at ANSP. A male and female in Drawer 3 at the BMNH bear conflicting locality and date labels, and no type designations. To clarify application of the name, we hereby designate a male from the ANSP collection as LECTOTYPE for *robinsoni* (Fig. 4d). The lectotype bears the labels “Penn.”, “LECTOTYPE/Catocala robinsoni/Grote 1872/Desig. Gall & Hawks 2002.” The type locality is Pennsylvania [USA]. We recognize *Catocala robinsoni* as a full species.
Fig. 4. Type specimens of moths in the genus Catocala Schrank. A. R. Grote types (authorship is Grote unless otherwise noted): a, lectotype, *ponderosa* Grote & Robinson. b, lectotype, *residua*. c, lectotype, *reducta*. d, lectotype, *robinsoni*. e, lectotype, *sciutillas* Grote & Robinson. f, lectotype, *semireducta*. g, lectotype, *simulatilis*. h, lectotype, *simonas*. 0.9–1.0 × natural size.

The original description states “Pennsylvania. Coll. Ent. Soc. Phil.” In Drawer 3a at the BMNH is a female bearing a blue-bordered Grote label, and labeled as type by Butler. This female bears a conflicting and probably erroneous locality label indicating Ohio as the locality. At the ANSP are two old specimens of scintillans, one female from Ohio ex Streeker collection and one unlabeled male pinned in a style matching other Grote types at the ANSP. We place greater confidence in Grote’s published states.


The original description does not state the number of types. In Drawer 17a at the BMNH is a male bearing a blue-bordered Grote label and a red-bordered type label, and a red BMNH type disc. To clarify application of the name we hereby designate it as LECTOTYPE for semirelicta (Fig. 4f). The lectotype bears the labels “Ohio”, “Ohio/Grote Coll./S1-116.”, “Ohio/S1-116 [and on the reverse:] Catocala/scintillans/Type Grote & Robinson”, “Catocala/scintillans/G + R.”, “LECTOTYPE/Catocala scintillans/Grote & Robinson 1866/Desig. Gall & Hawks 2002.” We retain the originally published Pennsylvania [USA] as the type locality. The name semirelicta is a synonym of Catocala innubens Guèneé, and represents specimens with a crisply delimited, wide white distal area on the forewing.

Catocala simulatilis Grote, 1874c. Trans. Amer. Entomol. Soc. 5:94

The original description states “Ohio, Dr. Hodge, two specimens.” In Drawer 2 at the BMNH is a female, bearing a red BMNH type disc, and labeled as type by Grote. Although this specimen claims to be from New York, this is probably a mislabeling, and we place greater confidence in Grote’s published statement. To clarify application of the name we hereby designate this specimen as LECTOTYPE for simulatilis (Fig. 4g). The lectotype bears the labels “N. Y./Grote Coll./New York”, “New York/S1-116 [and on the reverse:] Catocala/simulatilis/Grote Type”, “C. simulatilis/Type Grote”, “LECTOTYPE/Catocala simulatilis/Grote 1874/Desig. Gall & Hawks 2002.” We retain the originally published Ohio [USA] as the type locality. The name simulatilis is a synonym of Catocala obscura Streeker.

Catocala sinuosa Grote, 1879. Can. Entomol. 11:15

The original description states “Two specimens. Florida, Mr. Albert Koebel.” In Drawer 26a at the BMNH is a male, bearing a blue-bordered Grote label and a red-bordered type label, and a red BMNH type disc. To clarify application of the name we hereby designate it as LECTOTYPE for sinuosa (Fig. 4h). The lectotype bears the labels “U. S. America/Grote Coll./S1-116.”, “No. 3.”, “United States/S1-116 [and on the reverse:] Catocala/sinuosa/Type Grote”, “Catocala/sinuosa/Grote”, “Catocala/sinuosa/Type Grote”, “LECTOTYPE/Catocala sinuosa/Grote 1879/Desig. Gall & Hawks 2002.” The type locality is Florida [USA]. We recognize sinuosa as a subspecies of Catocala coccinata Grote with lighter forewings and a greatly reduced, sometimes obsolete hindwing median band. Specimens from peninsular Florida are referable to sinuosa, whereas nominate coccinata occurs elsewhere in North America. We have, however, seen occasional specimens similar to sinuosa from the Gulf Coast outside of Florida.

Catocala snowiana Grote, 1876b. Checklist Noct. Amer., p. 41

The original description does not state the number of types. A female at the AMNH is labeled by Grote as type of “snowi,” and to clarify application of the name we hereby designate it as LECTOTYPE for snowiana (Fig. 5a). The lectotype bears the labels “390”, “No. 11876/Collection/Hy. Edwards.”, “Type/No/A.M.N.H.”, “Catocala/snowi/Type”, “LECTOTYPE/Catocala snowiana/Grote 1876/Desig. Gall & Hawks 2002.” The type locality is Kansas [USA]. The lectotype of snowiana is a specimen of Catocala palaeogama Guèneé. Thus, snowiana is hereby transferred from the synonymy of Catocala neogama J. E. Smith to that of palaeogama (REVISED SYNONYMY).

Catocala sordida Grote, 1877. Can. Entomol. 9:170

The original description states “In Mrs. Bridgham’s collection is (or rather, was) a specimen labeled similis by Mr. Edwards, which belonged to what I consider as a variety of gracilis, having the primaries mixed bluish bray, and the basal dash of gracilis is wanting. This last
seems the only important character... This dark form (which seems also a little shorter winged) has been taken with the type by myself near Buffalo, and by Dr. Bailey near Albany. I have seen it also from Pennsylvania... This mixed dark blue-gray form, with distinct black lines and without the small basal streak of gracilis, I propose to designate by the name sordida... A female ex Bailey collection is in Drawer 23 at the BMNH, bearing a red-bordered type label, and a red BMNH type disc. As Grote correctly noted, there is no specimen of sordida labeled similis by Edwards in the Bridgham material now at the YPM, although there is a series of 12 gracilis. To clarify application of the name we designate the female at the BMNH as LECTOTYPE for sordida (Fig. 5c). The lectotype bears the labels “Grote Coll./81-116.”, “Centre, N.Y./July 12, 1877/Dr. J. S. Bailey/Collector”, “New York/81-116 [and on reverse:] C. gracilis/var. sordida/Type Grote”, “LECTOTYPE/Catocala sordida/Grote 1877/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to Centre, [Albany County], N[ew] Y[ork, USA] on the basis of the lectotype locality label. We recognize Catocala sordida as a full species.

*Catocala subnata* Grote, 1864b. Proc. Entomol. Soc. Phil. 3:326

The original description states “Hab. Maryland. (Coll. Ent. Soc. Phil.).” There are two old unlabeled males at the ANSP. A female subnata is in Drawer 5 at the BMNH, bearing a red BMNH type disc and labeled as type by Butler, but with a conflicting locality label “Kansas.” This female also bears a red-bordered label without type attribution, stating only “Catocala subnata,” and not in Grote’s handwriting. In the same series in Drawer 5 is a male subnata bearing a blue-bordered Grote label.

The text of the original description of subnata was based on the male, and the accompanying illustration in Fig. 4 of Plate 5 is definitely a male, lacking the basal dashes and darker scaling on the foregoing typical of female subnata. The BMNH specimen purporting to be a type is a strongly marked female, and it clearly does not match the illustration in Fig. 4 of Plate 5. We are willing to accept Hampson’s (1913:39) statement that the BMNH holds a type of subnata, but challenge his assertion that this is the female with two contradictory labels, as the male therein bearing Grote’s blue-bordered label is a far more plausible candidate. We suggest an erroneous association occurred, and we hereby designate the male in Drawer 5 as LECTOTYPE for subnata (Fig. 5b). The lectotype bears the labels “U. S. America/Grote Coll./81-116.”, “United States/81-116 [and on the reverse:] Catocala/sub-
nata/Grote”, “Catocala/subnata/Grote”, “LECTOTYPE/ Catocala sordida/Grote 1877/Desig. Gall & Hawks 2002.” The type locality is Maryland [USA]. We recognize Catocala subnata as a full species.

Catocala verrilliana Grote, 1875a. Can. Entomol. 7: 185

The original description does not state the number of types. In Drawer 27 at the BMNH is a male labeled as type by Grote, bearing a red BMNH type disc. To clarify application of the name we hereby designate it as LECTOTYPE for verrilliana (Fig. 5d). The lectotype bears the labels “499”, “U. S. America/Grote Coll./81-116”, “United States/81-116 [and on the reverse:] Catocala/verrilliana/Type Grote”, “Catocala/ verrilliana/Type/Grote”, “LECTOTYPE/Catocala verrilliana/Grote 1875/Desig. Gall & Hawks 2002.” The type locality is Bosque County, Texas [USA]. We recognize Catocala verrilliana as a full species.

Catocala westcottii Grote, 1878. Can. Entomol. 10: 195

The original description discusses two specimens: “I have the male from Illinois, Mr. O. S. Westcott, for whom I name the species.” The male is in Drawer 25 at the BMNH, bearing a red BMNH type disc, and to clarify application of the name we hereby designate it as LECTOTYPE for westcottii (Fig. 5e). The lectotype bears the labels “577”, “U. S. America/Grote Coll./81-116.”, “United States/81-116 [and on reverse:] Catocala/westcottii/Type Grote”, “Catocala/westcottii/Type/Grote”, “LECTOTYPE/Catocala westcottii/Grote 1878/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to Illinois [USA] on the basis of the lectotype labels. The name westcottii is a synonym of Catocala amestris Strecker.

Infra-subgeneric Names

Catocala habilis var. “basalis” Grote, 1876a. Can. Entomol. 8: 230

The original description states “Specimens received from Mr. Robert Bunker, taken about Rochester, N. Y.” There is a female in Drawer 5 at the BMNH, labeled as type by Butler and bearing a red BMNH type disc, with a locality label “Oneida Co./Aug. 1876/Dr. J. S. Bailey./Collector.” Oneida County is about 80 miles from Rochester proper, and is not inconsistent with the statement “taken about Rochester.” We leave the type locality as Rochester, N[ew] Y[ork USA], as originally published. The name “basalis” is a synonym of Catocala habilis Grote, and represents the typical female of this species.

Catocala cerogama var. “bunkeri” Grote, 1876a. Can. Entomol. 8: 230

The original description does not state the number of types. In Drawer 22 at the BMNH is a female bearing a red-bordered Grote label that lacks the word type, but with a type designation by Butler. The type locality is New York [USA]. The name “bunkeri” is a synonym of Catocala cerogama Guenee, and represents specimens with the hindwing “yellow basal shade entirely lost.”

Catocala innubens var. “flavidalis” Grote, 1874c. Trans. Amer. Entomol. Soc. 5: 95

The original description states “I have received from Prof. S. A. Forbes, Normal, Illinois, a specimen with the number ‘2’ attached to it.” In Drawer 3a at the BMNH is a male labeled by Grote as “var flavidalis/Grote,” and bearing a handwritten label “2.” Neither Beutenmuller (1903a) nor Hampson (1913) list the type of “flavidalis” as being among the Nearctic Catocala at the BMNH, but Beutenmuller (1903b) indicates the type is there, and from the label data we are confident the BMNH male is the holotype by monotypy. The type locality is not stated in the original description, but is presumably [Illinois, USA]. The name “flavidalis” is a synonym of Catocala innubens Guenee, and represents an aberration with yellowish hindwing bands.

Catocala concumbens ab. “hilli” Grote, 1883b. Papilio 3: 43

The original description states “This very singular aberration has been taken by Mr. W. W. Hill at Center, N. Y.” This female, the holotype by monotypy, is at the New York State Museum (NYSM) in Albany. The type locality is Center, [Albany County,] N[ew] Y[ork, USA]. The name “hilli” is a synonym of Catocala concumbens Walker, and represents an aberration with yellowish hindwing bands.

Achille Guenee

As was the case with many Lepidoptera groups, comparative study of the Nearctic specimens of Catocala did not really commence until the 1850’s, with the publication of A. Guenee’s (1852) Species General and F. Walker’s ([1858]) List of the specimens of lepidopterous insects in the collection of the British Museum. Guenee described 17 Nearctic Catocala in 1852, and he and Walker are the most important European workers to have published on the Nearctic species. Guenee obtained Catocala for his own collection from several North American sources, and had
the opportunity to study Boisduval’s collection and that
of the BMNH, which included Doubleday and Abbot
material. Most of Gueneé’s original descriptions cite
specimens, but he also described two Nearctic Catocala
from unpublished paintings by John Abbot.

Identifying many of Gueneé’s noctuid species was
an odyssey for Nearctic workers. Although Grote trave-
eled to France to visit Gueneé and examine his type
material, Grote was unable to resolve noctuids that
Gueneé had based on Abbot paintings. In a biography
of Gueneé, he summarized his opinion as follows (Grote
1881b): “[Gueneé] drew up descriptions of several
species [of North American noctuids] from draw-
ings by Abbot, and none of these have been satisfac-
torily identified and probably cannot be.” J. B. Smith
surveyed many of the European collections for his
noctuid catalogue, and stated therein (1893:9) “I did suc-
cceed in getting at most of the species marked ‘M.N.,’
in the Species General. I was in hopes of being able to
get track of the Abbot drawings, from which Gueneé
described a number of species; but I did not succeed in
this;” he also indicated that while at the BMNH his
“time was limited, I did not study Acronycta, which
Dr. Riley had already studied on a prior occasion, nor
Catocala, which Messrs. Grote and Henry Edwards
had compared.”

The first person to claim to know the identity of the
Gueneé Catocala names connubialis, messalina and
micronympha was G. D. Hulst (1884). Hulst was unfa-
miliar with these taxa just a few years earlier (Hulst
1880), and apparently based his 1884 opinion not on
comparisons of specimens but on a letter he received
in the intervening years from A. G. Butler of the
BMNH. Hulst’s prior nomenclatural actions in the
genus had already come under blistering attack by
Grote (1881c), and Hulst’s rather sudden “understand-
ing” of the Gueneé names simply became additional
fodder for the long-running feud between these two
workers (e.g., Grote 1891, 1892; Hulst 1881, 1892).
Nevertheless, over the ensuing several decades, Hulst’s
concepts of connubialis, messalina, and
micronympha became fixed in the Nearctic literature.

In his diagnosis of messalina, Hulst (1884:34) stated
that “Mr. Charles Oberthur, of Rennes, France, to
whom Gueneé’s types came, informs me that when
they came into his possession, all were found to be de-
stroyed beyond the possibility of recovery by the larvae
of Anthrenus [dermestids]. So no identification can be
made of any of Gueneé’s American species described
from imagines, from the types themselves.” Although
Hulst’s statement may be true for messalina, since we
have not located any types, it is demonstrably false for
Gueneé’s other Catocala, as W. Barnes obtained both
these and Gueneé’s other North American moth types
from C. Hofer in 1927 prior to the transfer of the
Oberthur collection to the BMNH. The Gueneé Cato-
cala types are at the USNM, bearing Gueneé, Oberthur,
and Barnes collection/accession labels, as well as
Gueneé’s distinctive handwritten type labels in French.

Because Gueneé described a number of lepi-
dopteran species based on paintings by John Abbot,
we wish to elaborate here on the pioneering work of
this man, one of the most productive early naturalists
in North America during the late 18th and early 19th
centuries. John Abbot reared, collected, and painted
native birds, insects, and plants of the southeastern
United States, and was one of the primary sources of
specimen material for customers in Europe and North
America at the time. He executed thousands of paint-
ings, the vast majority of which was never published. A
meticulous and revealing book on Abbot’s life and ac-
complishments was published recently by Gilbert

Only four of Abbot’s paintings of Nearctic Catocala
were published, in The Natural History of the Rarer
Lepidopterous Insects of Georgia (Smith & Abbot
1797). In that tome, four new species of Catocala were
described from the four Abbot paintings, these being
anasia (J. E. Smith), consors (J. E. Smith), neogama,
and vidua (J. E. Smith). The identity of the latter three
names as separate species was settled quickly by the
19th century Nearctic Catocala workers, whereas the
applicability of the name anasia was not completely
resolved until well into the 20th century (see Gall
1992, and our treatment below of connubialis Gueneé;
the name anasia J. E. Smith was recently suppressed
[ICZN 1994]).

Abbot painted many other species of Nearctic Cato-
cala, and these paintings survive today in several lo-
cations. The two most notable compilations are the
bound volumes in the Entomology Library of the
BMNH (ex Francillon collection) and the Houghton
Library at Harvard University (ex Oemler collection),
both of which we have examined. Among the 17
quarto volumes at the BMNH are 14 plates illustrat-
ing 18 individual Catocala, and at Houghton are 16 plates
illustrating 21 individual Catocala (see Table 2). To-
gether, the BMNH and Houghton plates depict at
least 18 different species. Ten plates are common to
both BMNH and Houghton, showing the same species
on the same backgrounds, and these likely represent
standard illustrations that Abbot’s clients could request
(see Gilbert 1998).

Perhaps not surprisingly, given his keen eye and
long-term residency in Georgia, Abbot knew of and
painted several rare and/or local Catocala species from
the southeastern United States that were not "discovered" and described until late in the 20th century. For example, one of the plates present at both BMNH and Houghton clearly shows *Catocala grisatra* Brower (undescribed until 1936) at the top and *Catocala similis* at the bottom. Among the non-corresponding plates, one at Houghton depicts *Catocala louiseae* Bauer (undescribed until 1965), and another at Houghton appears to depict the as yet undescribed species in the *Catocala arctica* complex. At this juncture, we believe none of the 19th and early 20th century Nearctic *Catocala* workers studied Abbot's unpublished paintings; species such as *grisatra* and *louiseae* are, in our opinion, far too distinctive to have escaped being named,
TABLE 2. The identity of Nearctic Catocala Schrank species figured in unpublished paintings by John Abbot, in the bound volumes housed at the Houghton Library (Harvard University, Cambridge, Massachusetts) and the Entomology Library at the Natural History Museum (London, England). For plates with two listed names, the first appears above the second on the plate.

<table>
<thead>
<tr>
<th>Source</th>
<th>Taxon</th>
</tr>
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<tbody>
<tr>
<td>Houghton Library (Oemler)</td>
<td></td>
</tr>
<tr>
<td>pl. 123</td>
<td>epione (Drury)</td>
</tr>
<tr>
<td>pl. 124</td>
<td>illa (Cramer)</td>
</tr>
<tr>
<td>pl. 125</td>
<td>ultronia (Hübner)</td>
</tr>
<tr>
<td>pl. 126</td>
<td>consors J. E. Smith, muliercula Gueneé</td>
</tr>
<tr>
<td>pl. 127</td>
<td>leniseae Bauer</td>
</tr>
<tr>
<td>pl. 128</td>
<td>lineella? Grote, jair? Strecker</td>
</tr>
<tr>
<td>pl. 142</td>
<td>sappho Strecker, maestosa Hulst</td>
</tr>
<tr>
<td>pl. 143</td>
<td>andromedae Gueneé</td>
</tr>
<tr>
<td>pl. 144</td>
<td>amatrix (Hübner)</td>
</tr>
<tr>
<td>pl. 145</td>
<td>carissima Hulst</td>
</tr>
<tr>
<td>pl. 146</td>
<td>coccinata Grote</td>
</tr>
<tr>
<td>pl. 147</td>
<td>nebulosa W. H. Edwards</td>
</tr>
<tr>
<td>pl. 148</td>
<td>consors J. E. Smith, muliercula Gueneé</td>
</tr>
<tr>
<td>pl. 149</td>
<td>grisata Brower, similis W. H. Edwards</td>
</tr>
<tr>
<td>pl. 150</td>
<td>micronympha Gueneé</td>
</tr>
<tr>
<td>pl. 151</td>
<td>amica (Hübner), jair? Strecker</td>
</tr>
<tr>
<td>Natural History Museum (Francillon)</td>
<td></td>
</tr>
<tr>
<td>vol. 8, pl. +52</td>
<td>carissina Hulst</td>
</tr>
<tr>
<td>vol. 8, pl. 264</td>
<td>amatrix (Hübner)</td>
</tr>
<tr>
<td>vol. 8, pl. 265</td>
<td>coccinata Grote</td>
</tr>
<tr>
<td>vol. 8, pl. 266</td>
<td>maestosa Hulst</td>
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<tr>
<td>vol. 8, pl. 267</td>
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<td>vol. 8, pl. 270</td>
<td>amica (Hübner)</td>
</tr>
<tr>
<td>vol. 8, pl. 271</td>
<td>micronympha Gueneé</td>
</tr>
<tr>
<td>vol. 8, pl. 273</td>
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<td>illa (Cramer), illa (Cramer)</td>
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<td>vol. 17, pl. 125</td>
<td>amica (Hübner), amica (Hübner)</td>
</tr>
<tr>
<td>vol. 17, pl. 140</td>
<td>grisata Brower, similis W. H. Edwards</td>
</tr>
<tr>
<td>vol. 17, pl. 280</td>
<td>consors J. E. Smith, muliercula Gueneé</td>
</tr>
<tr>
<td>vol. &quot;Tring&quot;, pl. 23</td>
<td>amatrix (Hübner)</td>
</tr>
<tr>
<td>vol. &quot;Tring&quot;, pl. 24</td>
<td>coccinata Grote</td>
</tr>
</tbody>
</table>

had the paintings been seen. One complicating aspect of the bound Francillon and Oemler volumes is that the plates are labeled haphazardly. For example, at the BMNH are plates bearing the labels vidua (Plate 30), amasia (Plate 126), consors (Plate 140) and neogama (Plate 280), that is, the four J. E. Smith names of 1797. However, these plate names do not in any way match Smith’s published usages. Instead, Plate 30 depicts sappho Strecker, Plate 126 depicts amica, Plate 140 depicts grisata and similis and Plate 280 depicts consors and muliercula Gueneé. In addition, plates often bear confusing subsequent annotations. For example, at Houghton, “C. marmorata?” appears on Plate 123 next to a painting of Catocala illa (Cramer), and “grynea? C.” appears on Plate 127 next to a painting of Catocala louniseae.

There are two Nearctic Catocala names whose descriptions were made from reference to unpublished Abbot paintings. Both names were authored by Guenée (1852), these being Hypogramma andromedae and Catocala connubialis. Hulst (1884) first placed the name connubialis into the synonymy of Nearctic Catocala under his new species sancta Hulst, and Barnes and McDunnough (1918b) later introduced andromedae as the senior synonym of tristis Edwards, based on information from Hampson. Guenée’s original description of andromedae is distinctive, and Hampson’s association of this name with the previously published name tristis has been universally accepted. We have located unpublished Abbot plates matching the description of andromedae. In contrast, Guenée’s original description of connubialis could apply to infrapopulational morphs of at least two Catocala species, and Hulst’s association of this name with the previously published amasia and cordelita Hy. Edwards met with immediate resistance. Fortunately, Hulst’s concept of connubialis is readily established from his type of sancta. However, we have not located an Abbot painting that matches Hulst’s concept. We discuss these situations below.

We note here that the Entomology Library at the BMNH contains a bound volume, in excess of 450 pages and handwritten by Guenée in French, that contains extensive notes by him on the synonymy of halartic Lepidoptera (Guenée [ca. 1857]). It also contains descriptions with manuscript names for non-European species that were never published, including Catocala. We were unable to glean any additional data about Guenée’s published Nearctic Catocala names from this volume, but we recommend that lepidopteran systematists routinely consult this work when studying Guenée types, as it clearly holds significant information that complements the Species General.

Available Names


Guenée described Hypogramma andromedae from a painting by John Abbot. The name andromedae was not included in the major works on Nearctic Catocala during the 19th century, probably because the species was originally described in another genus. The combination Catocala andromedae appears to have been used first in Barnes and McDunnough’s (1917) checklist, and the following year in their Catocala mono-
graph, where they stated (1918b:36) “This species has been generally known as *tristis* Edwards but Sir Geo. Hampson has recently called our attention to the fact that Guèneé’s description of *andromedae* (a name heretofore unplaced) fits this species very well; we concur with him in using Guèneé’s name, which has priority.” We agree with this placement, and further note that the larval illustration of *andromedae* by Guèneé (1852, fig. 11, Plate 2) is a *Catocala* and clearly matches larvae in the small group of Nearctic Ericaceae-feeding species, to which *tristis* belongs.

We have recently examined the compilations of Abbot’s unpublished works at the BMNH and the Houghton Library at Harvard University. Paintings that are readily identifiable as *tristis* appear in both compilations. To clarify application of the name we hereby designate the specimen figured (and now presumed lost) on Plate 273 in bound Abbot Volume 8 at the BMNH as LECTOTYPE for *andromedae* (Fig. 6a). The accompanying text reads “No 273. Noctua. Numeria. Caterpillar feeds on Oaks, bred 10th June, frequents Hammock, Rare, called in Savannah, small black underwing.” The foodplant association is erroneous, as are a number of Abbot’s Guèneé’s original description states “Amerique Septentrionale,” and on the basis of the text for Plate 273 and the published accounts of Abbot’s activities (see Gilbert 1998) we hereby restrict the type locality to Georgia, USA. We recognize *Catocala andromedae* as a full species.


The original description states “Amerique Septentrionale. Coll. Gn.” Three Guèneé males labeled as *androphila* are at the USNM. Two are *Catocala amica*, and one is *Catocala lineella*. Guèneé’s large label in French is affixed to an *amica*, and indicates that the first two specimens in his series (both *amica*) are “ordinaire” whereas the third in the series (the *lineella*) is “var A. Gn. p. 107” (this confirms that Grote 1872:18 had correctly surmised that his new species *lineella* was Guèneé’s var A). The label also says “Amer. Boreale. 1845,” and then “I have not seen since then a large enough number, all alike, sender also [unintelligible] Baltimore, but I have not seen the female.” To clarify application of the name we hereby designate the male bearing Guèneé’s large label in French as LECTOTYPE for *androphila* (Fig. 6b). In addition to Guèneé’s label, the lectotype bears the labels “Ex Musaeo/Ach. Guèneé”, “Oberthur/Collection”, “Barnes/Collection”, “LECTOTYPE/Catocala androphila/Guenee 1852/Desig. Gall & Hawks 2002.” The type locality is hereby amended to Amerique Boreale on the basis of the lectotype locality label. Barnes and McDunnough (1918b:45) pointed out that Guèneé intended the name *androphila* to replace the name *amica* (Hübner), which Guèneé mistakenly believed was preoccupied by the Palearctic species *Hadena amica* Treitschke (1825). The name *androphila* is a synonym of and unnecessary replacement name for *Catocala amica* (Hübner).


The original description states “Coll. Gn. Un σ.” A male bearing a large Guèneé label in French stating “No 1” is at the USNM. This specimen also bears another label “Type/see label” by F. H. Benjamin, and we consider it to be the holotype by monotypy. The type locality is the vicinity of Baltimore [Maryland, USA]. We recognize *Catocala cara* as a full species.


The original description states “Coll. Feisth. Gn. et M. N.” A male and female are at the USNM, both bearing Guèneé labels in French. The two labels were once part of a single label, and indicate: [on the male] 1. Poor σ from the collection of Feisthanel. / [on the female] 2. Good σ vicinity of Baltimore, purchased M. Becker in 1852.” To clarify application of the name we hereby designate the female as LECTOTYPE for *cerogama* (Fig. 6d). In addition to Guèneé’s label, the lectotype bears the labels “Ex Musaeo/Ach. Guèneé”, “Oberthuri/Collection”, “Barnes/Collection”, “LECTOTYPE/Catocala cerogama/Guenee 1852/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to the vicinity of Baltimore [Maryland, USA] on the basis of the lectotype locality label. We recognize *Catocala cerogama* as a full species.


Guèneé described *Catocala connubialis* from a painting by John Abbot. Eventually, nearly a century later, as a result of life history and related studies, the names *amasia* and *connubialis* were recognized to be infrasubspecific morphs (along with *cordelia, sancta* and *virens* French) of one of the most variable Nearctic *Catocala* species. Since 1938, the name *connubialis* has been applied to the species because *amasia* (published by J. E. Smith in 1797) was considered preoccupied by *Catocala amasia* Esper (1787), an unrelated Palearctic species thought to have been published in
1796. However, Heppner (1981) showed that Esper’s work dates from 1804, not 1796. The applicable history was reviewed by Gall (1992) in a petition accepted by the ICZN (1994) to conserve the name connubialis Guenee and suppress the name amasia J. E. Smith.

As noted above, Hulst was the first Nearctic Catocala worker to claim to understand the identity of connubialis. He first mentioned the name (1884:34) in his account of Catocala messalina: “Connubialis heretofore not identified, was described from a colored drawing of Abbott which is now, I understand, in the British Museum.” Later in the same paper, Hulst (1884:38) described Catocala sancta as new, placing connubialis as its synonym. The description of sancta follows: “These last two species [amasia and similis] have been much confused. Abbott’s upper figure, from which Smith says his description was made, is undoubtedly the insect afterwards named cordelia by Hy. Edwards. Guenee describes the lower figure of Abbott as amasia; but Abbott’s description of the upper figure, holds good against that of Guenee. Mr. Grote identified the more southern form as amasia, and thus it is generally labelled in collections. Mr. A. G. Butler [of the BMNH] writes me, this latter is connubialis, Guen.: but the description does not fit, and it was described from a drawing, and so the name does not in any case hold.” At the end of the same paper, Hulst (1884:56) commented further on the Butler letter, stating “Page 38, line 15, after ‘writes me’ insert ‘his opinion is.’ I do not understand that he has ultimate evidence. At any rate the description being based on a picture, can not stand.”

Hulst (1892:74) later elaborated his position: “Prof. French says ‘var. Virens is not a variety of Cordelia, Hy. Edw., but of Amasia; and Cordelia is not the one figured by Dr. Streeker, pl. 9, f. 12.’ But cordelia, Hy. Edw., is a synonym of amasia, Ab. & Sm., and Dr. Streeker’s figure is not amasia, Ab. & Sm. The error comes from the fact that Abbot & Smith figured two species as male and female of amasia, the description being of the upper one only. The insect represented by the lower figure of Abbot & Smith was distributed by Mr. Grote, and figured by Dr. Streeker as amasia. Of course the name attaches to the figure described, as afterwards Guenee located it, calling the lower figure connubialis. The lower insect I afterwards described as sancta, regarding Guenee’s name as without authority, as the description was from a picture. Whether I was right or not I will not here say, but the insect distributed by Mr. Grote, and figured by Dr. Streeker as amasia, is either connubialis, Gn., or sancta, Hulst; while the amasia of Abbot & Smith is the cordelia of Hy. Edwards, as Mr. Edwards afterwards acknowledged to me.” This last sentence is Hulst’s most succinct diagnosis of connubialis.

The two species shown on Smith and Abbot’s Plate xc are indeed not conspecific, and not even that close morphologically. This was first noted by Grote and Robinson (1866), who restricted the name amasia to the upper illustration and applied the name formula to the lower illustration (formula was later transferred to the synonymy of similis). This interpretation of Plate xc was followed by all the Nearctic Catocala workers, and Hulst (1884:37) had already unequivocally adopted this interpretation in his synonymies for both similis (“pl. 90 lower figure”) and amasia (“pl. 90, upper fig.”). Hulst described sancta in the same 1884 paper as distinct from both similis and amasia, and his type of sancta is identical to Streeker’s Plate 9 Fig. 12 and not in any way confusable with similis. Yet later, Hulst (1892:74) equally unequivocally assigned his sancta to the lower illustration of Plate xc. Unless one is willing to assume that by 1892 Hulst felt his sancta was conspecific with similis, for which we have no evidence whatsoever, his 1884 and 1892 synonymic treatments appear to be irreconcilable.

In his noctuid catalogue, Smith (1893:334) did not resolve this problem when he indicated: “Dr. Hulst cites this species [connubialis], as well as amasia Grt., to sancta, perhaps not justly. There is really no evidence that Guenee intended the amasia, and indeed, Dr. Hulst says the description does not fit. It [connubialis] should not therefore be cited as a synonym to sancta, which it must otherwise replace. Guenee’s species based on Abbot’s figures have been universally accepted, and if the figures are still in existence there is no reason why positive knowledge should not yet be obtainable.”

Even though Guenee’s concept of connubialis had not yet been adequately established, Smith’s statement probably cemented the link between connubialis and sancta. Hulst’s contemporaries could readily determine Hulst’s concept of connubialis by reference to the type of sancta and Streeker’s illustration on his Figure 12 on Plate 9. On the other hand, Hulst’s own understanding of connubialis was apparently based solely on the letter sent to him by Butler, and this letter was undoubtedly not generally available to other Catocala workers at the time (we have been unable to locate any letters from Butler to Hulst in the archives of Rutgers College, or in the Butler correspondence at the BMNH). Moreover, Butler’s concept of connubialis, and hence Hulst’s, unquestionably stems from Walker’s List (1558:1207–1208), in which specimen material at the BMNH is attributed to connubialis. Indeed, in Drawer 32a at the BMNH are two similar
males labeled as *connubialis* by Butler. These BMNH specimens match Hulst’s type of *sancta* at the AMNH and Streecker’s illustration, and are also consistent with Guèneé’s original description of *connubialis*. The undersurface of Butler’s label on one of the males reads “Catocala/connubialis var./Type Walker.”

We had hoped to locate an Abbot painting that matched the BMNH specimens Butler labeled as *connubialis*, but we found no matching painting at either the BMNH or at the Houghton Library, nor in the collections of Abbot *Catocala* plates at the CMNH, the ANSP, or the Atlanta History Center. Because (a) no Abbot painting unequivocally attributable to *connubialis* has been located, (b) the original description of *connubialis* is also consistent with some infrapopulational morphs of Guèneé’s *micromynthia*; (c) no type for *micromynthia* has been located, and (d) the early Nearctic *Catocala* workers had trouble differentiating the small yellow-hindwinged species, we consider it essential to fix the name *connubialis* firmly. To clarify application of the name, we hereby designate the BMNH male labeled as type of the variety by Butler as NEOTYPE for *connubialis* (Fig. 6c). The neotype bears the labels “United States/-? [and on the reverse:] Catocala/connubialis var./Type Walker”, “NEOTYPE/Catocala connubialis/Guèneé 1852/Desig. Gall & Hawks 2002.” Guèneé gives a type locality of “Amerique septentrionale,” but because Abbot does not seem to have ever figured this morph, and the neotype bears no precise locality data, we leave the type locality as stated by Guèneé. We recognize *Catocala connubialis* as a full species.


The original description states “Amerique Septentrionale, environs de Baltimore. Coll. Gu. Un δ, une Ψ.” A Guèneé male labeled “desperata/Baltimore” is at the USNM, and to clarify application of the name we hereby designate it as LECTOTYPE for *desperata* (Fig. 6e). In addition to Guèneé’s label, the lectotype bears the labels “Ex Musaeo/Ach. Guèneé”, “Oberthur/Collection”, “Barnes/Collection”, “LECTOTYPE/Catocala desperata/Guèneé 1852/Desig. Gall & Hawks 2002.” The type locality is the vicinity of Baltimore [Maryland, USA]. The name *desperata* is a synonym of *Catocala vidua* J. E. Smith.


The original description states “Amerique Septentrionale. Coll. Bdv. Un δ. Parait rare.” A male labeled “innubens/Gn. 25” and “Ex Musaeo/A. Kuwert 1894” is at the USNM (Oberthur obtained the noctuid portions of Kuwert’s [1828–1894] collection, and other Guèneé *Catocala* type material at the USNM bears Kuwert collection labels). We consider this USNM male to be Guèneé’s holotype by monotypy, since the handwriting on the first label matches that on other USNM Guèneé types. The type locality is “Amerique Septentrionale.” We recognize *Catocala innubens* as a full species.


The original description states “Coll. Gn. Une Ψ . . . [Variety] A . . . Coll. Gn. Un δ,” indicating a female holotype by monotypy. There are four male *insolabilis* at the USNM that are apparently from Guèneé’s collection, although only two bear his accession labels. We have not located a female, and Guèneé appears to have accurately sexed all his other Nearctic *Catocala* types. The first Guèneé male in the USNM series is worn, and the second male is in good condition. The worn male bears a large Guèneé label in French that states: “Baltimore "M. Becke." The δ that I have described is [unintelligible] poor [unintelligible] into a collection. Doubt [unintelligible] variety, in all, as I have supposed, [unintelligible] the No. 1 δ which arrives since is quite similar to the female.” We believe the worn male is the one on which Guèneé’s variety A was based. In the original description, Guèneé was uncertain whether variety A represented the typical male of the species, but his specimen label seems to corroborate a correct association of the sexes. Because the original description is diagnostic, and there has been no confusion regarding the applicability of the name, we choose not to take any formal action. The type locality is hereby restricted to Baltimore [Maryland, USA] on the basis of Guèneé’s label. We recognize *Catocala insolabilis* as a full species.


The original description states “Coll. Gn. Un beau δ.” This Guèneé male, the holotype by monotypy, is at the USNM. Its large Guèneé label in French offers no substantive additional information beyond that provided in the original description. The type locality is “Amerique Septentrionale.” We recognize *Catocala lacrymosa* as a full species.


The original description states “Canada. Coll. Gn. Parait rare.” Three Guèneé males labeled *melanympha*
are at the USNM, and to clarify application of the name we hereby designate the male bearing Guenée's large label in French as LECTOTYPE for melanympha (Fig. 6f). In addition to Guenée's label, which indicates the specimen was sent by Feisthamel, the lectotype bears the labels “Ex Musaeo/Ach. Guenee”, “Oberthur/Collection”, “Barnes/Collection”, “LECTOTYPE/Catocala melanympha/Guenee 1852/Desig. Gall & Hawks 2002.”

The type locality is Canada. The name melanympha is a synonym of Catocala antinympha (Hübner).


The original description states “Amerique Septentrionale. Coll. Bdv. Un d.” Grote (1872:19) translated Guenée's original description of messalina, and stated “Not identified by me. . . . This species should be recognisable from the continuous hind border of the secondaries, an exceptional character of this group.” Hulst (1884) embellished Grote's translation but correctly identified the species, listing jocasta Strecker and belfragiana Harvey as synonyms. We have been unable to locate a type of messalina at the USNM or at the BMNH. However, the original description of this unique species is diagnostic, and there has been no confusion regarding the applicability of the name since Hulst's diagnosis, so we choose not to take any formal action. The type locality is “Amerique Septentrionale.” We recognize Catocala messalina as a full species.


As with connubialis and messalina, Hulst (1884:34) was the first Nearctic worker to claim to know the identity of micronympha. However, unlike connubialis and messalina, Hulst offered no justification whatever for his placement of micronympha, stating only “An extraordinarily variable species. Atarah is slightly lighter than type form.” Although Grote (1891:281) properly protested that “without the slightest reason, Mr. Hulst quotes fratercula [the previous oldest name] as the species intended by Guenée as micronympha,” the name micronympha was used in the catalogue by Smith (1893) and as the species name by subsequent authors.

The original description of micronympha states “Amerique Septentrionale. Un d.” There are no Guenée specimens labeled by Guenée as micronympha among the type material at either the USNM or the BMNH. However, there are two worn male Guenée specimens of micronympha at the USNM that are labeled by Guenée as amasia, and the large label in French on one male indicates it was used for his 1852 description of amasia. The confusion among the 19th century Catocala workers regarding amasia sensu Guenée (which does not correspond well to Abbott's painting of amasia J. E. Smith) is now much more readily understandable, given the label data affiliated with the two USNM micronympha. These two USNM micronympha represent an infrapopulational variant lighter than “hero” Hulst that occurs in micronympha from the southern United States viz., forewings of a dull cream color, with variable brown shading in the postmedial area and the outer margin.

Because (a) we have not located the micronympha holotype, (b) Hulst's placement of micronympha was made without substantiating published evidence, (c) the original description of micronympha is consistent with some infrapopulational morphs of connubialis, and (d) the early Nearctic Catocala workers had trouble differentiating the small yellow-hindwinged species, we consider it essential to fix the name micronympha firmly. Accordingly, we hereby designate a male from the AMNH as NEOTYPE for micronympha (Fig. 6g). The neotype bears the labels “USA: Georgia: Liberty Co./St. Catherines Island/May 1991/Rozen, Quinter & Sharkov”, “NEOTYPE/Catocala micronympha/Guenee 1852/Desig. Gall & Hawks 2002.” The type locality is hereby amended to St.Catherines Island, Liberty Co[unty], Georgia, USA on the basis of the neotype label. We recognize Catocala micronympha as a full species.


The original description states “Amerique Septentrionale. Coll. Bdv. Un d.” We have not been able to locate Guenée's holotype at either the USNM or the BMNH. However, the original description is diagnostic, and we further note that the larval illustration of muliercula by Guenée (1852, fig. 15, Plate 2) matches the distinctive larvae in the small Nearctic group of Myricaceae-feeding species, to which muliercula belongs. Since there is no indication in the early Nearctic Catocala literature of confusion as to the applicability of this name, we choose not to take any formal action. The type locality is “Amerique Septentrionale.” We recognize Catocala muliercula as a full species.


The original description states “Amerique Septentrionale. Coll. Bdv. et Feisth.” and then “A. . . Memes localitas. Coll. Gn. Un d.” (Guenée's variety A is phalanga Grote). There are two male Guenée palaeogama at the USNM. One male bears a large Guenée label in
French that discusses four specimens, and indicates “♀” vicinity of Baltimore purchased Becker; the other male is labeled simply “palaeogama.” To clarify application of the name we hereby designate the male bearing Guenée’s large label as LECTOTYPE for palaeogama (Fig. 6i). In addition to Guenée’s label, the lectotype bears the labels “Ex Musaeo/Ach. Guenée,” “Oberthur/Collection,” “Barnes/Collection”, “LECTOTYPE/Catocala palaeogama/Guenée/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to the vicinity of Baltimore [Maryland, USA] on the basis of the lectotype locality label. We recognize Catocala palaeogama as a full species.


The original description states “Amerique Septentrionale, Canada. Coll. Gn. Trois examplaires.” Three male and one female Guenée *parta* are at the USNM. Two males and one female bear sections of what had previously been a single large Guenée label in French, and the fourth male only bears a label stating “Canada.” The three Guenée label segments together indicate “Amerique du Nord. 1. male purchased from Becker? / 2. ♀ id. id. in 1851. Baltimore. / 3.♂ poor from coll. Feisthamel.” To clarify application of the name we hereby designate the female as LECTOTYPE for *parta* (Fig. 6j). In addition to Guenée’s label, the lectotype bears the labels “Ex Musaeo/Ach. Guenée”, “Oberthur/Collection”, “Barnes/Collection”, “LECTOTYPE/Catocala parta/Guenée 1852/Desig. Gall & Hawks 2002.” The type locality is hereby restricted to Baltimore [Maryland, USA] on the basis of the lectotype locality label. We recognize Catocala parta as a full species.


The original description states “Amerique Septentrionale, Canada. Coll. Bdv. Un ♀.” We have not been able to locate Guenée’s type at either the USNM or the BMNH. Although *polygama* has been tabulated as a junior synonym of *Catocala grynea* (Cramer 1780) since the early part of the 20th century, reanalysis of the original description and especially of Guenée’s accompanying illustration on Fig. 2 of Plate 16 (reproduced in our Fig. 6h) reveals that *polygama* is in fact an unused senior synonym of *Catocala alabamae* Grote (1876a). A petition is currently pending at the ICZN (Gall 2002) to suppress the name *polygama* and conserve the name *alabamae*. We review the history and evidence here.

Following Guenée’s description, Grote (1872:15–16) applied *polygama* to “[specimens from] (Canada to Virginia) which differ in appearance among themselves but which I cannot separate . . . I think we have to do with a single variable species.” Grote distributed specimens determined by him as *polygama* to many workers, and thus the name *polygama* sensu Grote became widely used for a common and well-collected *Catocala* species from northeastern North America—viz, what lepidopterists currently call *blandula* Hulst. For example, Saunders (1876:72) described *Catocala crataegi* from Ontario, Canada as a new species, and provided detailed larval and adult descriptions of both it and *polygama*, showing significant points of distinction; Saunders’ description of the larva of *polygama* is a precise match for the larva of *blandula*, and matches the larva of no other *Catocala* species from eastern Canada.

In the first of his two treatises on *Catocala*, Hulst (1850:6–7) placed Grote’s *alabamae* as a variety of *grynea*; and *pretiosa, crataegi* and *mira* Grote (1876a) as “sub-varieties” of *polygama*. In his second treatise, Hulst (1884:35–39) returned *crataegi* and *mira* to full species status, and noted, correctly, that Grote had misidentified Guenée’s *polygama*. To resolve this, Hulst placed *polygama* sensu Guenée as a synonym of *grynea*, and proposed the new name *blandula* for the previously misidentified species *polygama* sensu Grote. Hulst (1884:35) did not unequivocally resolve *polygama* sensu Guenée, as indicated by his use of “C. polygama, Guen. Not. 7, 105, pl. 16, f.2, (?)” in his synonymy for *grynea*. Hulst (1884:36) elaborated: “The description of *polygama*, Guen., seems to fit this species [grynea]; the figure [given by Guenée], which is poor, seems more like var. *alabamae*; neither description nor figure approach the insect identified as *polygama* by Grote.” Under his treatment of *blandula*, Hulst (1884:39) added: “With regard to *polygama*, Guen., a glance at his figure Noct. 3, pl. 16, f. 2, will convince any one that this species [blandula] could not have been intended. The primaries and secondaries are entirely different. The description accords with *grynea*, and the figure fits it as well as any species known to me.”

Smith (1903) followed Hulst in placing both *polygama* sensu Guenée and *alabamae* as synonyms of *grynea*, and *polygama* sensu Grote as a synonym of *blandula*. Dyar (1903) apparently skirted the issue of Grote’s misidentification, and listed *polygama* as a full species with *blandula* as its synonym, and treated *alabamae* as a full species. Hampson (1913) placed *polygama* as a synonym of *grynea*, both *blandula* and *mira* as synonyms of *crataegi*, and treated *alabamae* as a full species. In their monograph of the Nearctic *Catocala*, Barnes & McDunnough (1918b:40) treated...
polygama as a synonym of grynea, and both blandula and alabamae as full species, indicating: “It should be borne in mind that the ‘polygama Guenée’ referred to by Lintner, Saunders, and others of the older authors is not the true species but probably what we have designated as blandula Hulst... Guenée’s figure of polygama is very poor but we do not see to what other species [i.e., grynea] it can be referred; it is certainly not blandula.” McDunnough’s (1938) checklist followed Barnes and McDunnough’s taxonomy, and polygama has not been used as a species name since that time. Forbes (1954:336) placed polygama back under alabamae “(probably polygama Guenée)” as had Hulst, but Nearctic works after 1954 have listed polygama under the synonymy of grynea (e.g., Tietz 1971, Hodges et al. 1983, Covell 1984, Poole 1989) as had Barnes & McDunnough. Note that some early 20th century authors, notably R. Bowley, used polygama in error as the species name for mira (e.g., Bowley & Berry 1910, cf. comments by Barnes & McDunnough 1918a:172–173; in his account of mira, Forbes 1954:335 indicated “polygama of American authors in large part, not Guenée”).

Unquestionably, Grote’s initial misidentification of polygama, Hulst’s (1884) placement of both polygama and alabamae as synonyms of grynea, and the relative scarcity of specimen material for this group of closely related yellow-hind winged species were all responsible for the volatile position of polygama in the 19th and early 20th century Nearctic literature. Some adults of this species group can be difficult to determine, but as a result of life history work during the first half of the 20th century, and, especially, more recent studies by ourselves and colleagues (e.g., H. D. Baggett, W. A. Miller, D. F. Schweitzer, J. R. Slotten) it is now firmly established that alabamae, blandula, cratægi, grynea, mira, and pretiosas are all distinct species. The adults breed true, with multiple broods of each species having been reared ex ovo; many specimens of each species also have been reared ex wild larvae and the larvae of most are separable.

Guenée’s (1852) Fig. 2 on Plate 16 of polygama is clearly not blandula, and just as clearly is neither cratægi, mira, nor pretiosa. However, polygama is also not grynea. Instead, Guenée’s figure of polygama is an acceptable albeit stylized rendering of alabamae, as suggested both by Forbes (1954) and originally by Hulst (1884:36) when he named blandula and corrected Grote’s misidentification. Guenée’s figure of polygama agrees with Grote’s description of and type of alabamae at the BMNH (accounting for sexual differences: the alabamae type is a female, whereas the polygama figure is a male), as well as to other speci-

Guenée offered the name *viduata* in his Errata section (p. 400) as a nominal modification of J. E. Smith's name *vidua*, a species which Guenée had misdiagnosed earlier in his text (pp. 94–95). Hulst (1884) rectified this by proposing the replacement name *maestosa* Hulst for *viduata* (see discussion in Barnes & McDunnough 1918b:14 and Forbes 1934:325). The type locality of *viduata* is Georgia, [USA].

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**LITERATURE CITED**


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