

The Type-Material of
North American Clearwing Moths
(Lepidoptera: Sesiidae)

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and
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ABSTRACT

Duckworth, W. Donald, and Eichlin, Thomas D. The Type-Material of North American Clearwing Moths (Lepidoptera: Sesiidae). *Smithsonian Contributions to Zoology*, number 148, 34 pages, 1973.—The type-material of North American clearwing moths of the family Sesiidae is reviewed by bringing together all the available data for the 255 species group names applied to this fauna area. Of these 255 names, 72 required lectotype designations, 152 were described from single specimens, and the remaining 31 are lacking in sufficient data to determine the number of specimens included in the original type series. The names are arranged alphabetically by specific name preceded by the genus in which it was originally described. The following information sequence is presented for each name: original combination; reference to original description; pertinent comments from the original description concerning the number of specimens, sex, locality, collection, and source of the types; exact label data on types, their present location, and number of syntypes examined; and subsequent pertinent comments and actions.

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The Type-Material of North American Clearwing Moths (Lepidoptera: Sesiidae)

*W. Donald Duckworth
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During the course of revisionary studies currently in progress on the North American clearwing moths, it became apparent that considerable confusion existed concerning the type-material for the numerous names applied to species in this family in North America, north of Mexico. The present paper is intended to rectify this situation, insofar as possible, by bringing together all the available data for the 255 species group names applied to this faunal area. Of these 255 names, 72 required lectotype designations, 152 were described from single specimens, and the remaining 31 are lacking in sufficient data to determine the number of specimens included in the original type series.

Although the North American Sesiidae (=Aegeriidae) are best known through the revisions of Beutenmuller (1901) and Engelhardt (1946), the contributor of the largest number of names in the North American fauna was Henry Edwards. It was largely due to the difficulties encountered with the 93 Edwards names that the task of locating the types and compiling the data as a separate study was undertaken by the present authors. In studying the Edwards types many discrepancies between information provided in the original descriptions and that found on the labels of specimens presumed to

be a part of the original type series were encountered. Apparently, in many instances, the specimens were labeled after the descriptions were published, sometimes incorrectly, and specimens were occasionally added to the original series or deleted from it without indication on the labels. In addition, Edwards frequently erred in determination of the sex of his specimens, and information provided in the published descriptions was not included on the specimen labels. In this study information is provided for the 52 species Edwards described from unique specimens, and lectotypes are designated for the remaining 41 species.

Through the acquisition of the Barnes collection, which included all the North American Heterocera specimens except the Sphingidae from the Oberthur collection through purchase, most of the sesiid types of Boisduval are located in the National Museum of Natural History, Smithsonian Institution. Lacking information to the contrary, these specimens have been considered holotypes in this study.

Thaddeus William Harris described 11 species of sesiids in the mid-nineteenth century. The type-material was deposited in the collection of the Boston Society of Natural History where, fortunately, they were examined by Engelhardt prior to the publication of his revision. Ultimately, the collections of the Boston Society were transferred to the Museum of Comparative Zoology, Harvard

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University, but not before there was considerable loss and damage through lack of curatorial attention. The Harris types were not found in the collections of the Museum of Comparative Zoology nor was there any indication that they had been received; thus, they must be presumed destroyed or lost prior to the transfer. Of the 11 names, 10 represent well-known species, most of which are of economic importance. Engelhardt (1946) covered the names in his revision and, consequently, there is no uncertainty concerning their application.

For various reasons 38 types could not be located. A number of these, such as the Harris types mentioned above, are assumed lost or destroyed and are so indicated. The types of a number of species described by various European authors were treated by Naumann (1971), and we have followed his treatment in these instances. In a number of cases the types are listed as unknown, which simply means that we were unable to locate the specimens or any indication concerning their past or present deposition. It is possible some of these may be uncovered as a result of this publication; others undoubtedly no longer exist.

Neotypes have not been designated in the present study for types which are presumed lost or destroyed in keeping with the provisions of the *International Code of Zoological Nomenclature*, Article 75 (a), which limits such designations to those instances "necessary in the interests of stability of nomenclature." In the North American sesiids the identities of all the entities for which the types are thought to be lost or destroyed are clearly established and do not qualify under the "exceptional circumstances" defined by the Code.

The distribution of the 255 North American sesiid types along with the institutional abbreviations used in the text are as follows: National Museum of Natural History, Smithsonian Institution (NMNH), 107; American Museum of Natural History (AMNH), 83; British Museum (Natural History) (BMNH), 15; Academy of Natural Sci-

ences, Philadelphia (ANSP), 1; Michigan State University (MSU), 8; Museum of Comparative Zoology, Harvard University (MCZ), 2; Field Museum of Natural History (FMNH), 1; and 38 either lost, destroyed, or unknown.

The format followed in this study is essentially that used by Todd (1968). The names are arranged alphabetically by specific name preceded by the genus in which it was originally described. The following information sequence is presented for each name: original combination; reference to original description; pertinent comments from the original description concerning the number of specimens, sex, locality, collection, and source of the types; exact label data on types, their present location, and number of syntypes examined; and subsequent pertinent comments and actions.

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The authors also wish to acknowledge the assistance of Mrs. Vera Milbank, Museum Technician, for bibliographic aid and Mr. Tim Friedlander, Undergraduate Research Fellow, for numerous support activities related to the project.

1. *Trochilium acericulum* Germadius, 1874:57

"Last June my attention was drawn to numerous castings, similar to those of the peach tree borer (*Trochilium exitiosum* Say) projecting from the trunk of the soft maple trees surrounding our university yard."

TYPE: Unknown.

DISCUSSION: The "university yard" mentioned in the original description refers to the campus of the University of Illinois, Champaign, Illinois. Both males and females were described without mention of where the types were deposited.

2. *Trochilium acerni* Clemens, 1860:14

"The larva bores the trunk of the maple."

TYPE: Lost (Engelhardt, 1946).

DISCUSSION: There is one specimen in the type collection of the Academy of Natural Science, Philadelphia, which may be the type specimen for this species; however, it lacks data for confirmation. The species is very common in collections and the species concept is well established, creating no difficulty in application of the name.

3. *Sylvora acerni* race *buscki* Engelhardt, 1946:79

"Types.—U.S.N.M. No. 56836, Male, from Gainesville, Fla."

HOLOTYPE: Male, in the NMNH: "*Conopia acerni buscki* Engelh., ♂"; "USNM Type No. 56836, buscki Engelh."; "Gainesville, Fla., xp. IV.14. 1929"; "Coll. Engelhardt, G. P."

4. *Synanthedon acerrubri* Engelhardt, 1925a:64

"Type. Described from five males and seven females. Holotype male and Allotype in the author's collection at the Brooklyn Museum. Co-types U.S. Nat. Mus., Am. Mus. Nat. Hist., William Barnes Collection."

HOLOTYPE: Male, in the NMNH: "*Synanthedon acerrubri* G. P. Engelhardt, ♂, Type"; "Coll., G. P. Engelhardt"; "Newtown, L.I., VII.18.07."

DISCUSSION: Engelhardt labeled only one male specimen "Type," but labeled an "allotype" female and the remainder of the type series as "Paratype." The specimen labeled "Type" must therefore be the holotype, and the type-locality is Newtown, L.I., New York.

5. *Pyrrhotaenia achillae* Hy. Edwards, 1881:203

"1 ♂. San Rafael, Califor. (H. E.) On *Achillea millefolia*. L."

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Pyrrhotaenia achillae* Hy. Edw., Type"; "781"; "California"; "No. 15977, Collection Hy. Edw."

6. *Sciapteron admirandus* Hy. Edwards, 1882a:54

"1 ♂, Texas (J. Boll)."

HOLOTYPE: Male, in the AMNH: "*Sciapteron admirandus* Hy. Edw., Type"; "Texas"; "No. 15802, Collection Hy. Edw."

7. *Aegeria aemula* Hy. Edwards, 1883:155

"Exp. ♂ 8 mm. ♀ 10 mm."

"Types. Coll. Prof. C. V. Riley."

SYNTYPES EXAMINED: 2 (both in the NMNH):

(1) "*Aegeria aemula* Hy. Edw., ♂, Type"; "U.S.N.M. Type No. 346"; "Collection of C. V. Riley"; "3157, May 24, 83"; "*Sesia scitula* Harr., ♂" (male). (2) "*Aegeria aemula* Hy. Edw., ♀, Type"; "U.S.N.M. Type No. 346"; "Collection of C. V. Riley"; "3157, May 22, 83"; "*scitula scitula* Harr., ♂" (male, abdomen missing).

DISCUSSION: Due to the better condition of the first syntype listed above, the male syntype in the NMNH dated "May 24, 83" has been selected, labeled, and is presently designated as the lectotype.

8. *Aegeria albicornis* Hy. Edwards, 1881:201

"1 ♂. Nevada. (Morrison)."

"Type. Coll. F. Tepper."

HOLOTYPE: Female, in MSU: "*Aegeria albicornis* Hy. Edw., Type"; "Nevada."

DISCUSSION: As was noted by Engelhardt (1946), the type specimen is a female, not a male as in Edwards's description.

9. *Synanthedon albociliata* Engelhardt, 1925c:215

"Habitat: Kerrville, Texas, October, 1916."

"Type, male, allotype, female, and two paratypes, females, William Barnes Collection. . . ."

HOLOTYPE: Male, in NMNH: "*Synanthedon albociliata* Engelhardt ♂, Type"; "Kerrville, Texas, X.1916"; "♂ genitalia on slide, AB, Jan., 17, 1939" (right wings also on genitalia slide).

10. *Thamnosphacia alleri* Engelhardt, 1946:124

"Type.—U.S.N.M. No. 56842, male. Also female allotype and 5 male and 3 female paratypes in the United States National Museum. From Chickasaw, Ala."

HOLOTYPE: Male, in the NMNH: "*Conopia alleri* Engelh., ♂"; "USNM Type No. 56842, alleri Engelh."; "Coll., G. P. Engelhardt"; "Chickasaw, Ala., IX.13.31"; "Fig."

11. *Melittia amoena* Hy. Edwards, 1883:54

"1 ♂, Douglas Co., Kansas, 900 feet, Prof. Snow."

HOLOTYPE: Unknown.

12. *Cissuvora ampelopsis* Engelhardt, 1946:134

"Type.—U.S.N.M., No. 56843. From Victoria, Tex."

"Remarks.—Described from male type, female allotype, 3 male and 3 female paratypes from the type locality; 4 male and 10 female paratypes from San Antonio, Tex."

HOLOTYPE: Male, in the NMNH: "*Paranthrene ampelopsis* Engelhardt ♂, Holotype"; "U.S.N.M. Type No. 24866,"; "from *Cissus incisa*"; "J. D. Mitchell, Collector"; "Victoria, Tex., 6-21-19"; "on *Cissus incisa*"; "Hunter, No. 3918."

DISCUSSION: The catalog of USNM type numbers indicates that this species was entered twice. The erroneously recorded 24866 was canceled from the catalog in February, 1944.

13. *Pyrrhotaenia animosa* Hy. Edwards, 1883:156

"4 ♂. 2 ♀. Arizona. Coll. B. Neumoegen and G. H. French."

SYNTYPES EXAMINED: 2 (both in NMNH): (1) "*Pyrrhotaenia animosa* Hy. Ed., ♂, Type"; "Typicum specimen"; "TYPE"; "Arizona" (male). (2) "*Pyrrhotaenia animosa* Hy. Edw., ♀, Type"; "Typicum specimen"; "TYPE"; "Arizona" (female).

DISCUSSION: The other four specimens supposed to be in the type series were not found. The male syntype in the NMNH is in good condition and has been selected, labeled, and designated as the lectotype.

14. *Sesia anthracipennis* Boisduval, 1874:392

"Elle se trouve en Géorgie où, selon Abbot, elle vit dans une espèce de Salix. Nous l'avons recue de John Leconte."

HOLOTYPE: Female, in the NMNH: "Type, *anthracipennis* Bdv., a/c Hofer"; "*Sesia anthracipennis* Bdv., Amer. bor., Sp. G. Sphing. 392"; "Oberthur Collection"; "j'ai envoyé en Jly 1882 la peinture à M. Edwards, Ch. Ob."; "Typicum Specimen"; "Ex Musaeo, Dris Boisduval"; "*anthracipennis*, Am. B."

15. *Carmenta apache* Engelhardt, 1946:54

"Types.—U.S.N.M. No. 56830, female."

"Remarks.—Described from three specimens, a perfect female and two imperfect males, the latter not designated as paratypes, in all probability representing the same species, but without knowledge of the food plant and habits the evidence is not conclusive. The three specimens are from Prescott, Ariz., the males collected by H. Dyar, August 20, 1917, and the female from the Barnes collection, dated July 1-7."

HOLOTYPE: Female, in NMNH: "*Conopia apache* Engel. ♀"; "Fig."; "Type No., U.S.N.M."; "Barnes Coll."; "Prescott, Ariz."; "July, 1-7."

16. *Sphinx apiformis* Clerck, 1759: pl. 9, fig. 2

TYPE: Lost (Naumann, 1971).

DISCUSSION: The original description is based on a figure. Apparently the location of the specimen or series from which the drawing was made is unknown and may in fact be lost or destroyed. The species was redescribed by Linnaeus in 1761, and according to Naumann (1971), there is a syntype in the Linnean Society London labeled "*apiformis*" in Linne's own handwriting.

17. *Sesia arctica* Beutenmuller, 1900:208

"Habitat.—Kodiak, Alaska, July 20th, 1899."

"Type.—One male, No. 5175, Coll. U. S. Nat. Mus.; collected by Mr. Trevor Kincaid. . . ."

HOLOTYPE: Male, in the NMNH: "*Sesia arctica* Beut., Type, ♂"; "U. S. N. M. Type No. 5175"; "♂ genitalia on slide, AB, Dec. 2, 1938."

18. *Sesia arizonae* Beutenmuller, 1898:240

"1 ♀, Summit of Mt. Union, 9,000 feet, Arizona, July 3, 1887, flying about scrub oak (G. D. Hulst). Coll. Hy. Edwards."

"1 ♀, Texas. Col. U. S. Nat. Mus."

SYNTYPES EXAMINED: 2 (1 in AMNH, 1 in NMNH): (1) "*Sesia arizonae* Beut., ♀, Type"; "Ariz."; "Summit of Mt. Union, about scrub oak, July 3.87, alt. 9000 ft."; "No. 15871, Collection Hy. Edwards"; "Genitalia mounted on slide No. 0010" (female in AMNH). (2) "*Sesia arizonae* Beut., ♀, Type"; "U.S.N.M. Type No. 4355"; "Tex."; "TDE Slide No. 76033" (female in NMNH).

DISCUSSION: The female syntype in the NMNH is not conspecific with the female syntype in the AMNH, based particularly on the genitalia. The NMNH syntype is conspecific with *refulgens* Hy. Edwards. Therefore, the female syntype in the AMNH has been selected, labeled, and designated as the lectotype.

19. *Gaea arizonensis* Beutenmuller, 1916:372

"Habitat.—Pinal Mts., Arizona."

"Described from a single female. Type: collection Dr. William Barnes."

HOLOTYPE: Female, in the NMNH: "*Gaea arizonensis* Beutm., Type, ♀"; "TYPE" "Pinal Mts., Ariz."

20. *Albuna artemisiae* Hy. Edwards, 1881:187

"1 ♂. Sier. Nev. Calif. (H. E.) on flowers of *Artemisia vulgaris*. L."

HOLOTYPE: Male, in the AMNH: "*Albuna artemisiae* Hy. Ed., Type"; "5041, Sierra Nev., Cali."; "No. 15875, Collection Hy. Edw."; "*mellinipennis* Bdv., det. G. P. E."

21. *Sesia asilipennis* Boisduval, 1829:496

"3a. Sa chenille, 3b. Sa crysalide.—Hab. l'Amérique septentrionale."

HOLOTYPE: Male, in the NMNH: "Type, *asilipennis* Bdv., a/c Hofer"; "*Sesia asilipennis* Bdv., Amer. bor., Sp. G. Sphing. p. 391"; "*Sesia asilipennis* Bdv., Sp. général, page 391"; "Oberthur Collection"; "j'ai envoyé en Jly 1882 la peinture à M. Edwards, Ch. Ob."; "Typicum Specimen"; "Ex. Musaeo, Dris Boisduval"; "Am. B."

22. *Aegeria aureola* Hy. Edwards, 1881:194

"1 ♀. Nevada. (Morrison.)"

"Type. Coll. E. L. Graef."

HOLOTYPE: Female, in the NMNH: "*Aegeria aureola* Hy. Ed., Type"; "TYPE"; "Col., E. L. Graef"; "Nev." (abdomen missing).

23. *Aegeria aureoauripura* Hy. Edwards, 1880:72

"Expanse, 0.60 inch. Texas, J. Boll."

"Type, coll. Mus. Comp. Zool., Cambridge."

HOLOTYPE: Female, in the MCZ: "*Aegeria* (?) *aureoauripura* Hy. Edw., (Type); "Dallas, Tex., Boll"; "Type 928."

24. *Synanthedon auritincta* Engelhardt, 1925c:216

"Habitat: Baboquivari Mts., Pima Co., Arizona, August 1-15, 1923 and 1924. O. C. Poling, collector, Described from eleven specimens, two males and nine females, kindly submitted for determination by Dr. Barnes and Mr. Benjamin."

"Type, female; allotype, male, and six paratypes, females, William Barnes Collection; one paratype, male and two paratypes, females, Geo. P. Engelhardt Collection at the Brooklyn Museum."

HOLOTYPE: Female, in the NMNH: "*Synanthedon auritincta* G.P.E. ♀, Type"; "Fig."; "14"; "Baboquivari Mts., Pima Co., Ariz., 1-15 Aug. 1923, O. C. Poling, Coll."

25. *Carmenta austini* Engelhardt, 1946:57

"Type.—U.S.N.M. No. 56832."

"Remarks.—Represented only by the types; the male holotype captured inside a window, Biological Department, University of Texas, Austin, Tex., November 4, 1922 (H. B. Park), and the female allotype collected at Ephraim, Sanpete County, Utah, September 29, 1929 (H. B. Park)."

HOLOTYPE: Male, in NMNH: "USNM Type No. 56832, *austini* Engelh."; "*austini*, ♂ genitalia on slide, AB, Jan. 22, 1940"; "Fig."; "*Chamaesphecia austini* Engelh. ♂"; "*Chamaesphecia giliae austini* Engelh. ♂"; "GPEngelhardt Coll."; "H. B. Parks, Jr., Collector"; "Austin, Tex., 11-9-32."

DISCUSSION: There is a discrepancy as to the date given in the publication and the date on the label. There is little doubt that the male in the NMNH is the actual type specimen, and an error in transcribing the date must have occurred at some point.

26. *Alcathoe autumnalis* Engelhardt, 1946:105

"Type.—U.S.N.M. No. 56840. From San Antonio, Tex."

"Remarks.—Described from the male type and 31 male and 27 female paratypes all from San Antonio, Tex."

HOLOTYPE: Male in NMNH; "*Alcathoe autumnalis* Engelh. ♂, Type"; "Coll. G. P. Engelhardt"; "San Antonio, Tex., X.20.1930."

27. *Melittia barnesi* Dalla Torre, 1925:138, new name pro *M. superba* B. & L., 1922

HOLOTYPE: Ipsos facto type of *superba* B. & L.

28. *Aegeria bassiformis* Walker, 1856:39

"a. United States. Presented by E. Doubleday, Esq."

HOLOTYPE: Male, in the BMNH: "64, *Aegeria bassiformis*"; "46.110, U.S."; "Type."

29. *Melittia beckeri* Druce, 1892:276

"Expanse 1½ inch."

"Hab. Mexico, near Durango city (Becker)."

HOLOTYPE: Male, in the BMNH: "B.C.A. Lep. Het. *Beckeri* Druce"; "Near Durango city, Mexico, Becker"; "Godman-Salvin Coll. 97.-52"; "Type, Sp. figured"; "Type."

30. *Pyrrhotaenia behrensii* Hy. Edwards, 1882c:123

"2 ♂ Soda Springs, Shasta Co., Calif. (J. Behrens)."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Pyrrhotaenia behrensii* Hy. Edw. Type"; "Soda Spr., June 16"; "No. 15958, Collection Hy. Edw." (male). (2) "*Pyrrhotaenia behrensii* Hy. Edw."; "Soda Spr., June 16"; "No. 15960, Collection Hy. Edw." (male).

DISCUSSION: The first male syntype in the AMNH listed above has been selected, labeled, and designated as the lectotype.

31. *Albuna beutenmulleri* Skinner, 1903:126

"♀. . . Described from one specimen taken at Stockton, Utah, May 24, 1902, by Mr. Thomas Spalding."

HOLOTYPE: Female, in the Academy of Natural Sciences of Philadelphia; "*A. beutenmulleri* Skinner, TYPE"; "Stockton, Utah, V.24.02, T. Spalding"; "Type No. 7077, *Albuna beutenmulleri* Henry Skinner."

32. *Sesia bibionipennis* Boisduval, 1869:64

HOLOTYPE: Male, in the NMNH: "Type, *bibionipennis* Bdv., a/c Hofer."; "*Sesia bibionipennis*, Bdv. Sp.G. Sphing, California, p.421"; "*bibionipennis*, Calif."; "Oberthur Collection"; "Typicum specimen"; "Ex. Musaeo, Dris Boisduval"; "j'ai envoyé en Jly 1882, La peinture à M. Edwards, Ch. Ober."

DISCUSSION: Engelhardt (1946) states, "The specific name *bibionipennis* Boisduval, 1869, has not been used in earlier check lists because of insufficient description and the supposed loss of the type. This type, however, has been found in a part of the Oberthur Collection, acquired by William Barnes, and is now at the United States National Museum."

33. *Aegeria bolli* Hy. Edwards, 1881:191

"1 ♂. Texas. (J. Boll.)"

"Type. Coll. B. Neumoegen."

HOLOTYPE: Male, in the NMNH: "*Aegeria bolli* Hy. Edw., Type"; "TYPE"; "Typicum specimen"; "Tex."; "*bolli*, Type HE, ♂ genitalia on slide, AB, Jan. 10, 1937."

34. *Aegeria bolteri* Hy. Edwards, 1883:155

"1. ♂ N. Illinois. Collected by my friend, Mr. A. Bolter, to whom I dedicate the species. Type Coll. Hy. Edwards."

HOLOTYPE: Female, in the AMNH: "*Aegeria bolteri* Hy. Edw., Type"; "N. Ill."; "No. 15894, Collection, Hy. Edw."

DISCUSSION: The type is a female and not a male as indicated by Edwards in the original description, an error he has made more than once.

35. *Tarsa bombyciformis* Walker, 1856:61

"Male."

"a. - - - - ?"

HOLOTYPE: Male, in the BMNH: "*Tarsa bombyciformis* Wlk. Type, ♂"; "1., *Tarsa bombyciformis*"; "Type"; "F3/13."

36. *Penstemonia brevifolia* Engelhardt, 1946:21

"Type.—U.S.N.M. No. 56825. Holotype male and allotype female; one male and one female paratypes. Collected in the Green Horn Mountains, Calif."

HOLOTYPE: Male, in the NMNH: "*Penstemonia brevifloris* Engelh., ♂"; "USNM Type No. 56825, *brevifolia* Engelh." "Out 8-28-39, ♂, 1-Greenhorn Mts., 7-9-39, *P. brevifl.*"; "♂ genitalia on slide, May 10, 1940, J.F.G.C., 2963."

37. *Aegeria brunneipennis* Hy. Edwards, 1881:191

"1 ♀. Georgia. (Morrison.)"

"Type. Coll. F. Tepper."

HOLOTYPE: Female, in MSU: "*Aegeria brunneipennis* Hy. Edw., Type"; "Ga."; "F. T." (abdomen missing).

38. *Sesia brunneri* Busck, 1914:143

"Foodplant: *Pinus ponderosa*."

"Habitat: Camas, Montana, Josef Brunner, collector."

"Type: Cat. No. 18238, U.S.N.M."

SYNTYPES EXAMINED: 2 (both in NMNH): (1) "*Sesia brunneri* Busck, ♀, Type"; "U.S.N.M. Type No. 18238"; "Camas, Mont., *P. ponderosa*"; "on *Pinus ponderosa*, Camas, Mont., Josef Brunner"; "11530a" (male). (2) "*Sesia brunneri* Busck, ♂, Type"; "U.S.N.M. Paratype No. 18238"; "reared from cambium of *P. ponderosa*, Camas, Mont., J. Brunner"; "11586"; "♂ genitalia on slide, Mch. 24, 1917, H., =*novaroensis* Hy. Ed., H." (male).

DISCUSSION: There is an additional specimen labeled "Cotype" in the NMNH with the same data as the syntypes listed above. The better of the two specimens, the male syntype in the NMNH labeled "♀ Type," has been selected, labeled, and is designated as the lectotype.

39. *Trochilium californicum* Neumoegen, 1891:108

"Hab.—Central California. Type ♀, coll. B. Neumoegen."

HOLOTYPE: Female, in the NMNH: "*Trochilium californicum* Neumoegen, Type"; "TYPE"; "Typicum specimen"; "California."

40. *Aegeria candescens* Hy. Edwards, 1882c:123

"1 ♂ Arizona. (H. K. Morrison.) Coll. B. Neumoegen."

HOLOTYPE: Female, in the NMNH: "*Aegeria candescens* Hy. Ed., Type"; "TYPE"; "Typicum specimen"; "Arizona."

DISCUSSION: Note that the sex was erroneously determined in the original description.

41. *Zenodoxus canescens* Hy. Edwards, 1881:205
"2 ♀. Colorado. (C. V. Riley.)"

SYNTYPES EXAMINED: 1 (in AMNH): "*Zenodoxus canescens* Hy. Edw., Type"; "Arkansas"; "No. 15997, Collection Hy. Edwards" (male).

DISCUSSION: No specimens could be found bearing Edwards's type label from Colorado. Since labeling errors have been noted on other types of his, we are assuming that the locality, Arkansas, is erroneous and that this specimen is a syntype. Also, his original description of the species is of the male and not the female as indicated. Therefore, the male syntype in the AMNH has been selected, labeled, and is presently designated as the lectotype.

42. *Zenodoxus canescens* race *bexari* Engelhardt, 1946:200

"Type.—Male. U.S.N.M. No. 56859. From Bexar County, Tex. Described from one female and two males in imperfect condition."

HOLOTYPE: Male, in the NMNH: "*Zenodoxus bexari* Engelh., ♂ Type"; "Bexar Co., Tex., 10.2.1930"; "H. B. Parks Collector."

43. *Zenodoxus canescens* race *sidae* Engelhardt, 1946:199

"Type.—U.S.N.M. No. 56858. From Blythe, Riverside County, Calif. (C. Dammers)."

HOLOTYPE: Male, in the NMNH: "USNM Type No. 56858, *sidae* Engelh."; "♂ Coll. by C. Dammers, 2 Nov. 1936, Blythe, Riverside Co."

44. *Alcathoe carolinensis* Engelhardt, 1925b:156
"Habitat. Black Mountains, N. C."

"Foodplant. Collected by William Beutenmuller on clematis flowers in midsummer."

"Types. Holotype male, American Museum of Natural History."

"Described from a unique specimen kindly loaned by Mr. Frank E. Watson, of the American Museum of Natural History."

HOLOTYPE: Male, in the AMNH: "*Alcathoe carolinensis* Engel., Holotype"; "Black Mts., N. C., W. Beutenmuller"; "Caught on Clematis flowers, midsummer, Beutenmuller."

DISCUSSION: Engelhardt (1946) says, "The type of *carolinensis* lacks antennae and the long anal appendage of the male. Reexamination shows it not to be a male, as described, but a female with a

short antennal stub which is orange, characteristic of that sex." Our examination revealed that the specimen is undoubtedly a male as originally described, based on cilia on the antennal stub and the presence of a short portion of the male anal appendage and an examination of the genitalia externally.

45. *Sesia castaneae* Busck, 1913:102

"Type: U. S. Nat. Mus. No. 15505."

"Bred from the trunks of chestnut by Mr. F. C. Craighead."

"The adults emerged April 12, and May 21, 1912."

HOLOTYPE: Female, in the NMNH: "*sesia castaneae* Busck, "Type"; U.S.N.M. Type No. 15505"; "Lynchburg, Va., on chestnut, bred, May 21, 1912"; "9718, Hopk. U.S."

46. *Aegeria caudata* Harris, 1839:311

"Larva inhabits the stems of our indigenous currant, *Ribes Floridum*." (Described both the male and the female.)

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

47. *Alcathoe caudata* race *annettella* Engelhardt, 1946:103

"Type.—U.S.N.M. No. 56838, male."

"Remarks.—Represented in the United States National Museum by the type, one male and two female paratypes collected and reared on *Clematis* vines in the garden of Annette E. Braun, Cincinnati, Ohio, July 1, 1916."

HOLOTYPE: Male, in the NMNH: "*Alcathoe caudata* race *annetella* Engelh., Type"; "Cincinnati, O., Annette F. Braun, VII. 1. 16."

48. *Alcathoe caudatum* ab. *walkeri* Neumoegen, 1894:331

"Type ♂ coll. B. Neumoegen. Obs. also coll. Doll and Walker."

"Mr. I. V. D. Walker, of Jamaica, L. I., to whom I dedicate this splendid aberration, was the first one to discover it about a year ago."

HOLOTYPE: Male, in the NMNH: "*Alcathoe caudata* ab. *walkeri* Neumoegen, ♂ Type"; "TYPE"; "Jamaica, L. I.=U.S."; "Typicum specimen."

49. *Trochilium ceto* Westwood, 1848:62, pl. 30: fig. 6

"Observations.—This species was communicated to me by H. G. Harrington, Esq., as a native of India. It is, I believe however (on the authority of specimens in the British Museum), a native of North America."

TYPE: Unknown (possibly in the BMNH).

DISCUSSION: Our search of the BMNH did not uncover the type of this species.

50. *Sphacia championi* Druce, 1883:29

"Hab. Guatemala, near the city (Champion)."

"A male and female of this fine species were taken in copula by Mr. Champion on *Psidium guava*."

SYNTYPES EXAMINED: 2 (both in BMNH): (1) "B.C.A. Lep. Het., *Sphacia championi* Druce"; "Guatemala City, 5000 ft., Champion"; "Godman-Salvin, Coll. 19.-52"; "Type, Sp. figured"; "Found on *Psidium guava* guava tree, ♂ ♀ in cop."; "Type" (male). (2) "B.C.A. Lep. Het., *Sphacia championi* Druce," "Guatemala City, 5000 ft., Champion"; "Godman-Salvin, Coll. 19.-52"; "Type, Sp. figured"; "Type" (female).

DISCUSSION: Since it is our policy to select the male whenever possible, the male syntype in the BMNH has been selected, labeled, and is designated as the lectotype.

51. *Sesia chrysidipennis* Boisduval, 1869:64

"Elle a le port de notre *Chrysidiformis*."

"Prise sur les fleurs à Los Angeles."

HOLOTYPE: Male, in the NMNH: "Type, '*chrysidipennis*' Bdv., a/c Hofer"; "*Sesia Chrysidipennis* Bdv., Sp. G. Sphing., California, p. 403"; "Oberthur Collection"; "j'ai envoyé en Jly 1882, La peinture à M. Edwards, Ch. Ober."; "*chrysidipennis*, Calif."; "♂ genitalia on slide, AB, Apr. 8, 1939."

52. *Ramosia chrysidipennis* race *wallowa* Engelhardt, 1946:30

"Type.—U.S.N.M. No. 56826. Holotype male, allotype female, six male and four female paratypes. Collected in the 'Elk Mountains, Oregon.'"

HOLOTYPE: Male, in the NMNH: "*Chamaesphacia tacoma* race *wallowa* ♂ Engelh."; "USNM Type No. 56826, *wallowa* Engelh."; "Fig."; "Elk Horn Mts., 5000 ft., E. Ore., VII.31.1938."

53. *Penstemonia clarkei* Engelhardt, 1946:18

"Type.—U.S.N.M. No. 56823. Collected at The Dalles, Oreg. Holotype male, allotype female, and 12 paratypes."

HOLOTYPE: Male, in the NMNH: "*Penstemonia clarkei* Engelh., ♂"; "U.S.N.M. Type No. 56823, *clarkei* Engelh."; "Fig."; "Reared from *Penstemon richardsoni*"; "The Dalles, Ore., E 5-VIII-38, G. P. Engelhardt."

54. *Pyrrhotaenia coccinea* Beutenmuller, 1898:241

"1 ♀, Albuquerque, New Mexico. (Cockerell.) Type, Coll. U. S. Nat. Mus."

HOLOTYPE: Female, in the NMNH: "*Pyrrhotaenia coccinea* Beut., Type"; "U.S.N.M. Type No. 4356"; "Ck11. 3206, Albuquerque."

55. *Pyrrhotaenia coloradensis* Beutenmuller, 1893:25

"One female, Custer County, Colorado (Cockerell). Sept. Coll. Hy. Edwards, Am. Mus. Nat. Hist."

HOLOTYPE: Male, in the AMNH; "*Pyrrhotaenia coloradensis* Beut., Type"; "At Bigelovia flowers, Sept., Custer Co., Colo."; "No. 15987, Collection Hy. Edwards."

DISCUSSION: Note, the sex is male and not female as indicated in the description.

56. *Albuna coloradensis* Hy. Edwards, 1881:189

"1 ♀. Colorado. (H. K. Morrison.)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Female, in the AMNH: "*Albuna coloradensis* Hy. Ed., Type"; "Colorado"; "No. 15860, Collection, Hy. Edw."

57. *Podosesia comes* Heinrich, 1920:79

"Habitat.—Brush Corral, Arizona. (Edmonston and Hofer.)"

"Food Plant.—*Quercus*, species. Two moths (male and female) reared under Hopk. U.S. No. 12182a, from the woody Cynipid galls on white oak . . ."

"Type.—Cat. No. 21814, U.S.N.M."

HOLOTYPE: Male, in the NMNH: "*Podosesia comes* Heinrich, Type, ♂"; "U.S.N.M. Type No. 21814"; "White oak"; "Bush Corral, Ariz."; "Geo. Hofer, Colr."; "Edmonston WD, Colr."; "Reared May 11.15"; "12182a, Hopk. U.S."; "*Conopia querci* Hy. Edw., ♂"; "Fig."; "*comes* Hein., ♂ genitalia on slide, AB, Oct. 27, 1939."

58. *Aegeria consimilis* Hy. Edwards, 1881:194

"1 ♂ Dorchester, Mass. (P. S. Sprague.)"

"Type. Coll. Boston Soc. Natl. History, No. 1345."

HOLOTYPE: Male, in the AMNH: "*Aegeria con-similis* Hy. Ed., Type"; "Dorchester, Mass."; "No. 15905, Collection Hy. Edw."

59. *Aegeria corni* Hy. Edwards, 1881:190

"1 ♂. On *Cornus sericea* L. Purgatory Swamp, Mass."

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Aegeria corni* Hy. Ed., Type"; "Purgatory Swamp, Massachusetts"; "No. 15924, Collection, Hy. Edw."

60. *Aegeria corusca* Hy. Edwards, 1881:193

"1 ♂. Texas. (Belfrage.)"

"Type. Col. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Aegeria co-rusca* Hy. Ed., Type"; "Tex."; "No. 15928, Collec-tion, Hy. Edw."

61. *Sphinx crabroniformis* Denis & Schiffermuller, 1775:305

TYPES: Destroyed (Naumann, 1971).

62. *Aegeria cucurbitae* Harris, 1828:33

"The above brief description will serve to iden-tify the female, and the specific name will indicate the genus of plants on which the larva feeds."

TYPE: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

63. *Sphinx culiciformis* Linnaeus, 1758:493

"Habitat in Europa."

TYPES: Lost (Naumann, 1971, "befindet sich nicht in der Linne'schen Sammlung, Linnean So-ciety, London").

64. *Sesia culiciformis* var. *americana* Beutenmuller, 1896:136

"Habitat: Nevada and British Columbia."

"This form was first recorded by me as occurring in this country from a specimen in the collection of Mr. Charles Palm, from the Cascade Mountains, British Columbia."

SYNTYPES EXAMINED: 4 (all in AMNH): (1) "*Sesia culiciformis* var. *americana* Beut., Type"; "Nev."; "No. 15936, Collection Hy. Edwards" (male). (2) "*Sesia culiciformis* var. *americana* Beut., Type"; "Nev."; "No. 15937, Collection Hy. Edwards" (female). (3) "*Sesia culiciformis* var. *americana* Beut., Type"; "Nev."; "No. 15938, Col-lection Hy. Edwards" (female). (4) "*Sesia culici-*

formis var. *americana* Beut., Type"; "Nev."; "No. 15939, Collection Hy. Edwards" (female).

DISCUSSION: There is no indication from the original description as to how many specimens were in the type series. The above listed syntypes were the only specimens bearing the "type" label that could be found and are considered here as part of the type series of Beutenmuller. The male syn-type in the AMNH has been selected, labeled, and is designated as the lectotype.

65. *Sciapteron cupressi* Hy. Edwards, 1881:183

"1 ♂. Colorado. (I. Doll.)"

"Type. Coll. B. Neumoegen."

HOLOTYPE: Female, in the NMNH: "*Sciapteron cupressi* Hy. Edw., Type"; "Typicum specimen"; "Col."; "Genitalia Slide, By T. D. Eichlin, USNM 75799."

DISCUSSION: The supposed male could not be found in the AMNH. Engelhardt (1946) writes, "Type.—Male. In the American Museum of Natu-ral History. Female allotype in United States Na-tional Museum." Under "Remarks" he states, "The male type is in fine condition and well il-lustrated by Beutenmuller; the allotype is a dwarfed, imperfect specimen." Apparently, the male in the AMNH to which Engelhardt refers as the type is a specimen from Arizona and therefore cannot be the type. Edwards must have described the female, since he made no mention of the very obvious sexual character, the "hair pencils" of the anal tuft, which are unique to the males. He sim-ply states, "Caudal tuft, dull orange." Because the Neumoegen material is in the NMNH, the speci-men described was a female and not a male as originally indicated, and the only specimen labeled type is the female in the NMNH, the latter is con-sidered to be the holotype.

66. *Penstemonia dammersi* Engelhardt, 1946:19

"Type.—U.S.N.M. No. 56824. Holotype male, allotype female, and 20 paratypes. Collected on Mount Wilson, Calif."

HOLOTYPE: Male, in the NMNH: "*Conopia dam-mersi* Engelh., ♂"; "U.S.N.M. Type No. 56824, *dammersi* Engelh."; "Fig."; "Reared from *Penste-mon*"; "Mt. Wilson, Calif., 6000 ft., 9-IX-36, G. P. Engelhardt."

67. *Aegeria deceptiva* Beutenmuller, 1894:93

"Type: One male, from Colorado, Coll. Am.

Mus. Nat. Hist. Collected and presented by Mr. David Bruce."

HOLOTYPE: Male, in the AMNH: "*Aegeria deceptiva* Beut., Type"; "Colo., Bruce"; "No. 15877, Collection Hy. Edwards."

68. *Aegeria decipiens* Hy. Edwards, 1881:197

"1. ♂. Colorado. (Morrison.)"

"Type. Coll. E. L. Graef."

HOLOTYPE: Male, in the AMNH: "*Aegeria decipiens* Hy. Ed., ♂, Type"; "Col."; "No. 15945, Collection Hy. Edw."

69. *Albuna denotata* Hy. Edwards, 1882a:55

"1 ♂ 2 ♀. Montana Terr. H. K. Morrison."

"Types. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 3 (all in AMNH): (1) "*Albuna denotata* Hy. Edw., Type"; "Mont"; "No. 15779, Collection Hy. Edw." (male). (2) "Mont."; "No. 15780, Collection Hy. Edw." (female). (3) "*Albuna denotata* Hy. Edw., Type"; "Mont."; "No. 15781, Collection Hy. Edw." (female).

DISCUSSION: Engelhardt (1946) referred to the male type in the AMNH, and to avoid future confusion, the male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

70. *Trochilium denudatum* Harris, 1839:310

"Expands from one inch and a quarter to more than one inch and a half."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

71. *Sciapteron dollii* Neumoegen, 1894:330

"Hab.—Vicinity of New York City. Types ♂ and ♀ coll. B. Neumoegen. Obs. also coll. J. Doll."

SYNTYPES EXAMINED: 3 (All NMNH): (1) "*Sciapteron dollii* Neumoegen, ♂ Type"; "TYPE"; "Typicum specimen"; "N.Y." (The abdomen of a female has been glued on.) (2) "*Sciapteron dollii* Neumoegen, ♀ Type"; "TYPE"; "Typicum specimen"; "N.Y." (The abdomen is missing.) (3) "*Sciapteron dollii* Neumoegen, ♀ Type"; "TYPE"; "Typicum specimen"; "N.Y." (The abdomen is missing.)

DISCUSSION: Engelhardt (1946) states, "Type.—Male. In the United States National Museum." He did not refer to the male specimen as a lectotype, so, to avoid possible confusion in the future, the male syntype in the NMNH has been selected, labeled, and is designated as the lectotype.

72. *Sciapteron dollii* var. *castaneum* Beutenmuller, 1897:213

"One female from Texas. Coll. B. Neumoegen. Two males from Kentucky, No. 15778, Coll. Hy. Edwards, A. M. N. H."

SYNTYPES EXAMINED: 3 (2 in AMNH, 1 in NMNH): (1) "*Sciapteron dollii* var. *castaneum* Beut., Type" "Kentucky"; "No. 15778, Collection Hy. Edwards" (male, AMNH). (2) "No. 15778, Collection Hy. Edwards" (male, AMNH). (3) "*Sciapteron dollii* var. *castaneum* Beut., ♀ Type"; "*Sciapteron castaneum* Hy. Ed., Type"; "Tex."; "Typicum specimen" (female, NMNH).

DISCUSSION: Since Beutenmuller lists the female from Texas first, and the specimen is in good condition, the female syntype from the NMNH has been selected, labeled, and is designated as the lectotype.

73. *Paranthrene dollii* form *fasciventris* Engelhardt, 1946:142

"Type.—U.S.N.M. No. 56845."

"Described from male type, female allotype, four male and three female paratypes from Chicago (May and June), and three male and three female paratypes from Cicero, Ill."

HOLOTYPE: Male, in the NMNH: "*Paranthrene dollii* Neum., sub-species *fasciventris*, ♂ Holotype"; "Coll. G. P. Engelhardt"; "Fig."; "Chicago, Ill., VI-12-1920, Cicero, A. Kwiat., ex Poplar."

74. *Aegeria edwardsii* Beutenmuller, 1894:92

"One female, Denver, Colorado. Collected by Mr. D. Bruce. Type: Coll. Am. Mus. Nat. Hist."

HOLOTYPE: Female, in the AMNH: "*Aegeria edwardsii* Beut., ♀, Type"; "Colo., Bruce"; "No. 15940, Collection Hy. Edw."

75. *Pyrrhotaenia elda* Hy. Edwards, 1885:49

"*P. Elda* . . . is described from 2 ♀ taken in Siskiyou Co, California, by Mr. James Behrens."

SYNTYPES EXAMINED: 2 (both in the AMNH): (1) "*Pyrrhotaenia elda* Hy. Edw., Type"; "Siskiyou, Aug. 15"; "No. 15956, Collection Hy. Edw." (female). (2) "*Pyrrhotaenia elda* Hy. Edw."; "Siskiyou, Aug. 10"; "No. 15955, Collection Hy. Edw."; "*P. elda=behrensii* Hy. Edw." (female).

DISCUSSION: The first female syntype listed above from the AMNH with a type label has been selected, labeled, and is designated as the lectotype.

76. *Aegeria emphytiformis* Walker, 1856:43

"a, b. United States. Presented by E. Doubleday, Esq."

SYNTYPES EXAMINED: 1 (in BMNH): "*Aegeria emphytiformis*, Type, ♂"; "46.110, U.S."; "72, *Aegeria emphytiformis*"; "Type" (male).

OTHER MATERIAL EXAMINED: 2 (1 in BMNH, 1 in AMNH): (1) "235"; "46.110, U.S."; "Cotype" (female). (2) "*Bembecia emphytiformis* Wlk, Cotype, ♀"; "56.110, U.S."; "No. 15775, Collection Hy. Edwards" (female).

DISCUSSION: No other syntypes could be found, and it is impossible to determine if one of the above listed cotypes is the other syntype mentioned in the original description. The male syntype in the BMNH has been selected, labeled, and is designated as the lectotype.

77. *Pyrrhotaenia eremocarpi* Hy. Edwards, 1881:203

"1 ♂. Sier. Nevada, Calif. (T. L. Mead.)."
"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Pyrrhotaenia eremocarpi* Hy. Edw., Type"; "V.8.78"; "Sier. Nev., Calif."; "No. 15976, Collection Hy. Edw."

78. *Aegeria eupatorii* Hy. Edwards, 1881:195

"2 ♀. Long Island, N.Y. In stems of *Eupatorium purpureum* L. Mr. S. L. Elliot."

SYNTYPES EXAMINED: 2 (both in the AMNH): (1) "*Aegeria eupatorii* Hy. Ed., Type"; "Am. Mus. Nat. Hist., Dept. Invert. Zool., No. 23828"; "Long Island, N.Y., ♀, per Original Descript" (female). (2) "*Aegeria eupatorii* Hy. Ed., Type (2)"; "New York"; "No. 15904, Collection Hy. Edw." (male).

DISCUSSION: The female syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

79. *Aegeria exitiosa* Say, 1823:216

(James Worth forwarded the specimens to Say for description. Say described the male and female, pupa, and egg, but gave no clues as to the disposition of the types.)

TYPES: Lost (Engelhardt, 1946).

80. *Sanninoidea exitiosa* var. *edwardsii* Beutenmuller, 1899b:160

"I herewith propose the varietal name *edwardsii* for the female which has both the fourth and fifth segments banded with orange, and the space be-

tween the inner veins wholly or partly scaled with blue-black."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Sanninoidea exitiosa* var. *edwardsii* Beut., Type"; "20 July 36"; "C.U. Exp. No. 312, Sub." (female). (2) "*Sanninoidea exitiosa* var. *edwardsii* Beut."; "2 Aug. 35"; "C.U. Exp. No. 312, Sub." (female).

DISCUSSION: Beutenmuller mentions that he reared the specimens but does not state how many represented the type series. The female syntype labeled "type" in the AMNH has been selected, labeled, and is designated as the lectotype.

81. *Aegeria exitiosa* var. *fitchii* Hy. Edwards, 1882a:55

"I apply this name to the form of the ♀ . . ."

"In roots of wild cherry. Tallahassee, Florida. (A. Koebele.) W. Virginia. (T. L. Mead.)"

SYNTYPES EXAMINED: 1 (in AMNH): "*Aegeria exitiosa* var. *fitchii* Hy. Edw., Type"; "Tallahassee, Florida"; "No. 15832, Collection Hy. Edwards" (female).

DISCUSSION: No specimens from West Virginia could be located that could be considered as part of the original series. The female syntype from the AMNH has been selected, labeled, and is designated as the lectotype.

82. *Sannina exitiosa* var. *luminosa* Neumoegen, 1894:331

"Types (males), coll. B. Neumoegen. Obs. also coll. J. Doll."

SYNTYPES EXAMINED: 2 (both in NMNH): (1) "*Sannina exitiosa* v. *luminosa* Neumoegen, ♂ Type"; "TYPE"; "Glendale, L. I., VI.21"; "Typicum specimen" (male). (2) "*Sannina exitiosa* v. *luminosa* Neumoegen, ♂ Type"; "TYPE"; "Glendale, L. I., VI.5"; "Typicum specimen" (male).

DISCUSSION: The first male syntype listed from the NMNH and dated VI.21 is in better condition and has been selected, labeled, and is designated as the lectotype.

83. *Synanthedon fatifera* Hodges, 1962:139

"Types.—Holotype: male, Mentor, Ohio, emerged at Geneva, N.Y., July 13, 1961, *Viburnum*; E.H.S. 1-61; R.W.H. ♂ genitalia slide No. 2001 [U.S.N.M. Type No. 66024]. Paratypes: 1 ♂, 2 ♀, same locality as type, July 17-23, 1961 [U.S.N.M.]"

HOLOTYPE: Male, in the NMNH: "R. W. Hodges, HOLOTYPE, *Synanthedon fatifera*"; "Vi-

burnum, 7/13/61, Geneva, N.Y."; "EHS-1-61"; "Photo"; " δ genitalia on slide, 1962, R.W.H., 2001."

84. *Paranthrene fenestratus* Barnes and Lindsey, 1922:122

"Holotype φ , Chiricahau Mts., Cochise Co., Ariz., June 8-15, in coll. Barnes."

HOLOTYPE: Female, in the NMNH: "*Memythrus fenestratus* B. & L., Holotype φ "; "Fig."; "Chiricahau Mts., Ariz., Cochise Co."; "June 8-15."

85. *Sesia flavipes* Hulst, 1881:76

"Two specimens, δ and φ , taken on different days, each at rest on blackberry leaves, late in September, in Brooklyn, N.Y."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Bembecia flavipes* Hulst, Type"; "No. 15815, Collection Hy. Edwards" (male). (2) "*Bembecia flavipes* Hulst, Type"; "No. 15816, Collection Hy. Edwards" (female).

DISCUSSION: The male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

86. *Melittia flavitibia* Walker, 1856:67, new name pro *Trochilium tibiale* Harris, 1839

TYPE: Ipso facto type of *tibiale* Harris.

87. *Pyrrhotaenia floridensis* Grote, 1875:174

" δ . . . The antennae are heavy, lengthily pilose, brush-like" (indicates that it was a δ specimen). "Enterprise, Fla., May 29."

HOLOTYPE: Male, in the AMNH: "*Pyrrhotaenia floridensis* Grote, Type"; "Enterprise, Fla., May 29"; "No. 15967, Collection Hy. Edwards."

88. *Sesia florissantella* Cockerell, 1908:330

"Hab.—Florissant, Colorado, June 25, 1908, in a very dry place (Cockerell)" (describes a male specimen).

HOLOTYPE: Male, in the NMNH: "*Sesia florissantella* Ckil., Type"; "Florissant, Colo., (Cril.), June 25"; " δ genitalia on slide, AB, Aug. 29.39."

89. *Pyrrhotaenia fragariae* Hy. Edwards, 1881:202

"1 δ 1 φ . Colorado. (Morrison.)"

"Types. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 1 (in AMNH): "*Pyrrhotaenia fragariae* Hy. Ed., Type"; "Colorado"; "No. 15966, Collection Hy. Edw." (female).

DISCUSSION: The male type could not be found. Therefore, the female syntype in the AMNH has

been selected, labeled, and is designated as the lectotype.

90. *Sesia fragariae* var. *semipraestans* Cockerell, 1908:329

" φ ."

"Hab.—Florissant, Colorado, prox. 8,000 ft., June 21, 1908, flying rapidly over very dry and barren ground (Cockerell)."

HOLOTYPE: Female, in the NMNH: "*Sesia fragariae* v. *semipraestans* Ckll., TYPE"; "Florissant, Colo., June 21, 1908 (Ckll.)"

91. *Carmenta fraxini* Hy. Edwards, 1881:185

"1 δ . Washington, D. C. (C. V. Riley.)"

HOLOTYPE: Could not be located.

DISCUSSION: The following specimen was examined from the AMNH: "*Carmenta fraxini* Hy. Edw., φ , Type"; "*Harmonia morrisonii* Hy. Edw., φ "; "Missouri." The specimen is a male and not a female as labeled. It is doubtful that this specimen is the holotype.

92. *Trochilium fraxini* Lugger, 1891:109

"Length of body 15 mm. Exp. of wings 30 mm" (apparently describing a single specimen).

HOLOTYPE: Unknown.

93. *Albuna fraxini* form *vitriosa* Engelhardt, 1946:169

"Type.—U.S.N.M. No. 56848. From Chicago, Ill."

"Remarks.—Described from male type, female allotype, . . .; all in the United States National Museum."

HOLOTYPE: Male in NMNH; "*Memythrus fraxini vitriosa* Engelhardt δ Holotype"; "Coll. G. P. Engelhardt"; "Chicago, Ill., VII.14.1921."

94. *Aegeria fulvipes* Harris, 1839:312

"Expands thirteen lines."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

95. *Trochilium gallivorum* Westwood, 1854:757

"On looking at some galls on the American *Quercus palustris*, then recently received from North America . . ."

"It measures 8 lines in expanse of the fore wings, and 5 lines in the length of the body."

TYPE: Unknown.

96. *Aegeria geliformis* Walker, 1856:46

"Male."

"a. United States. Presented by E. Doubleday, Esq."

HOLOTYPE: Male, in the BMNH: "*Aegeria geliformis*, Type, ♂"; "79, *Aegeria Geliformis*"; "46.110, U.S."; "Type."

97. *Aegeria giliae* Hy. Edwards, 1881:200

"1 ♀, Colorado. (Morrison.)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Female, in the AMNH: "*Aegeria giliae* Hy. Ed., Type"; "Colorado"; "No. 15879, Collection, Hy. Edw."

98. *Carmenta giliae* race *woodgatei* Engelhardt, 1946:61

"Type.—U.S.N.M. No. 56833, male. Collected at Fort Wingate, N. Mex."

HOLOTYPE: Male, in the NMNH: "USNM Type No. 56833, *woodgatei* Engelh."; "*giliae*"; "*mimuli*, Comp. with Type Coll. Hy Edw."; "Fort Wingate, New Mex."; "Aug. 1-7."

99. *Melittia gloriosa* Hy. Edwards, 1880:71

"Secondaries dull orange . . ." (This indicates that the specimen being described is a female, since the secondaries of the male are mostly hyaline.) "I first took this remarkable insect in San Leandro, Cal., in 1872."

HOLOTYPE: Female, in the AMNH: "*Melittia gloriosa* Hy. Ed., Type"; "5040 Califor."; "No. 15773. Collection, Hy. Edw."

100. *Sciapteron graefi* Hy. Edwards, 1881:183

"1 ♂. 2 ♀. Nevada (Morrison.)"

"Type. Coll. E. L. Graef, from whom I have received many courtesies, and to whom I dedicate this singular species."

SYNTYPES EXAMINED: 3 (2 in MSU, 1 in NMNH): (1) "*Sciapteron graefi* Hy. Edw., Type"; "F. T."; "Nevada" (female, MSU). (2) "*Sciapteron graefi* Hy. Edw., Type"; "Nevada" (female, MSU). (3) "*Sciapteron graefi* Hy. Edw., Type"; "TYPE"; "Col., E. L. Graef."; "Nev." (female, NMNH).

DISCUSSION: Though a male labeled type was not found, we believe the above three syntypes represent the type series in the original description, since Edwards often misidentified the sex of his specimens. The female specimen mentioned by Engelhardt (1946) as being in the AMNH could not be found and is assumed to be one of the two

syntypes at MSU listed above. The female syntype in the NMNH, because it alone has the E. L. Graef collection label, has been selected, labeled, and is designated as the lectotype.

101. *Sanninoidea graefi* var. *barnesii* Beutenmuller, 1901:272

"Habitat.—Colorado."

"Type: One female. Coll. Dr. W. Barnes, Decatur, Illinois."

HOLOTYPE: Female, in the NMNH: "*Sanninoidea graefii* var. *Barnsii* Beut., ♀ Type"; "Barnes Collection"; "2 Clear Creek Canon, Colo."

102. *Trochilium grande* Strecker, 1881:156

". . . expanding 1¾ inches."

"Hab. Texas."

HOLOTYPE: Female, FMNH: "*Trochilium grande* Streck."; "Texas"; "Orig. Type"; "J. Boll."

103. *Melittia grandis* var. *hermosa* Engelhardt, 1946:186

"Type.—U.S.N.M. No. 56853, female. Described from two females from Arizona."

HOLOTYPE: Female, in the NMNH: "*Melittia grandis* var. *hermosa* Engelh., ♀ Type"; "Arizona"; "U.S.N.M. Type."

104. *Carmenta helenis* Engelhardt, 1946:50

"Type.—U.S.N.M. No. 56828, male. Collected at Earl Grey, Saskatchewan. Also allotype female, one male paratype, and one female paratype. In the United States National Museum."

HOLOTYPE: Male, in NMNH: "*Compositicola helenis* Engelh. ♂"; "holotype"; "USNM Type No. 56828, *helenis* Engelh."; "GPEngelhardt Coll."; "Earl Grey, Sask., 4.VII.1926, J. D. Ritchie"; "♂ genitalia on slide 75966, T. D. Eichlin."

105. *Pyrrhotaenia helianthi* Hy. Edwards, 1881:203

"1 ♂. 1 ♀. Virginia City, Nevada. (H. E.) On *Helianthus*, sp."

"Types. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 1 (in MSU): "*Pyrrhotaenia helianthi* Hy. Edw."; "Nevada"; "F. T." (female).

OTHER MATERIAL EXAMINED: 2 (in AMNH): (1) "Soda Sp., June 16"; "*Pyrrhotaenia helianthi* Hy. Edw., Type"; "No. 15957, Collection Hy. Edwards" (female). (2) "*Pyrrhotaenia helianthi* Hy. Edw."; "Soda Sprgs., Siskiyou, June 30"; "No. 15959, Collection Hy. Edwards" (male).

DISCUSSION: Only the one specimen in the MSU

Collection could be found from Nevada. Beutenmuller (1893) mentions the female labeled type in the Edwards Collection but stated that it could not be a type since it is from Soda Springs, California. It is possible that Edwards decided to make the latter specimen the type subsequent to writing the description. The female syntype from MSU has been selected, labeled, and is designated as the lectotype.

106. *Aegeria hemizoniae* Hy. Edwards, 1881:198
"2 ♂. 1 ♀. Nevada. On *Hemizonia luzulifolia*. D. C. (H. E.)"

"Type. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 2 (1 in AMNH, 1 in NMNH): (1) "Nevada"; "No. 15920, Collection Hy. Edw." (female, AMNH). (2) "*Aegeria Hemizoniae* Hy. Ed., ♀ Type"; "TYPE"; "*rutilans* Hy. Edw., Comp. with Type Coll. Hy. Edw., W. B."; "Typicum specimen"; "Nevada" (head and abdomen missing, NMNH).

DISCUSSION: A female with a type label is in the AMNH, but it is from California and cannot be part of the type series. The female syntype in the NMNH is in such poor condition that consequently the female syntype in the AMNH has been selected, labeled, and is designated as the lectotype. The two males mentioned in the original description were not found.

107. *Penstemonia hennei* Engelhardt, 1946:16
"Type.—U.S.N.M. No. 56822. Holotype male, allotype female, two male and three female paratypes. Collected in San Bernardino County, Calif."

HOLOTYPE: Male, in the NMNH: "*Penstemonia henni* Engelh., ♂"; "Fig."; "Out 8-28-38, ♂, P. Mill Cr., 38."

108. *Aegeria henschawii* Hy. Edwards, 1882a:56
"1 ♀. Mingan Island, Labrador, Mr. S. H. Henshaw . . ."

HOLOTYPE: Female, in the AMNH: "*Aegeria henschawii* Hy. Ed., Type"; "Mingan Island, Labrador, July 20, 1881, L. Henshaw"; "No. 15887, Collection Hy. Edw."

109. *Zenodoxus heucherae* Hy. Edwards, 1881:205
"6 ♂ 2 ♀. H. E. On flowers of *Heuchera rubescens* Torr. Lake Tahoe, Calif."

SYNTYPES EXAMINED: 4 (3 in AMNH, 1 in NMNH): (1) "*Zenodoxus heucherae* Hy. Edw., Type"; "3492, Sierra Nev., Cal."; "No. 15990, Col-

lection Hy. Edw." (male, AMNH). (2) "3492 Sierra Nev., Cal."; "No. 15991, Collection Hy. Edw." (male, AMNH). (3) "3492, Sierra Nev., Cal."; "No. 15992, Collection Hy. Edw." (male, AMNH). (4) "3492, Sierra Nev., Cal."; "No. 15989, Collection Hy. Edwards" (male, NMNH).

DISCUSSION: Two females and two males said to be part of the type series could not be found. The first male syntype listed above from the AMNH has been selected, labeled, and is designated as the lectotype.

110. *Euhagena hirsuta* Engelhardt, 1946:172
"Type.—U.S.N.M. No. 56851."

"Remarks.—The male type and only example . . ."

HOLOTYPE: Male, in the NMNH; "*Euhagena hirsuta* Engelh., ♂"; "USNM Type No. 56851, *hirsuta* Engelh."; "Fig."; "for illustration"; "Davis Mts., Tex., 5000 ft, X.17 1928, O. C. Poling."

111. *Trochilium hospes* Walsh, 1866:270
"One ♂, bred June 2 from the Coleopterous Pseudogall *S. inornata* n. sp.; ♀ unknown."

TYPE: Unknown.

112. *Sesia hylaeiformis* Laspeyres, 1801:14
"Habitat in Germaniae australis hortis, rarius. A Dno Hubner Augusta Vindelicorum ad me missa. Larva uncialis, solitaria, albida, subpubescens, capite fusciscente. Habitat in Rubi Idaei ramulis."
TYPES: Lost (Naumann, 1971).

113. *Aegeria hylotomiformis* Walker, 1856:43
"Female."
"a. Nova Scotia. From Lieut. Redman's collection."

HOLOTYPE: Female, in the BMNH: "*Aegeria hylotomiformis* Wkr., Type ♀"; "73. *Aegeria Hylotomiformis*"; "Type"; "31"; "Nova Scotia, Redman."

114. *Aegeria hyperici* Hy. Edwards, 1881:195
"2 ♀. West Virginia. T. L. Mead."
"Types. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 1 (in AMNH): "*Aegeria hyperici* Hy. Edw., Type"; "West Virginia"; "No. 15865, Collection Hy. Edw." (male).

DISCUSSION: Only one of the syntypes could be found. The above male syntype in the AMNH has been selected, labeled, and is designated as the lectotype. The sex was erroneously recorded as female by Edwards.

115. *Aegeria imitata* Hy. Edwards, 1881:196

"1 ♂. Pennsylvania."

"Type. Col. B. Neumoegen."

HOLOTYPE: Female, in the NMNH: "*Aegeria imitata* Hy. Ed., Type"; "Type"; "Typicum specimen."

DISCUSSION: The type is a female and not a male as indicated in the original description.

116. *Aegeria imperfecta* Hy. Edwards, 1881:198

"1 ♂. Colorado. (Morrison)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Female, in the AMNH: "*Aegeria imperfecta* Hy. Ed., Type"; "Colorado"; "No. 15945, Collection Hy. Edw."

DISCUSSION: Note that the sex was misidentified by Edwards in the original description.

117. *Aegeria impropria* Hy. Edwards, 1881:193

"2 ♂ Marin Co. and Sier. Nev. Cal. (H. E.) 1 ♀. Washington Ter. (Morrison)"

"Types Coll. Hy. Edwards. B. Neumoegen."

SYNTYPES EXAMINED: 1 (in the NMNH): "*Aegeria impropria* Hy. Edw., ♂, Type"; "TYPE"; "Typicum Specimen"; "B. N."; "Was. T." (female, abdomen fell off while handling and was placed in gelatin capsule).

DISCUSSION: The two male specimens mentioned in the description could not be found, so the female in the NMNH has been selected, labeled, and is designated as the lectotype.

118. *Aegeria infirma* Hy. Edwards, 1881:195

"1 ♂. Long Island, N.Y. (S. L. Elliot.)"

"Type. Coll. S. L. Elliot."

HOLOTYPE: Female, in the AMNH: "*Aegeria infirma* Hy. Edw., ♀, Type"; "Am. Mus. Nat. Hist. Dept. Invert. Zool., No. 23827"; "This is probably the ♂ of *Ae. eupatorii*"; "Long Island, N.Y., ♂, per Original Descript." (very worn specimen).

DISCUSSION: The type is a female, not a male as indicated in the description.

119. *Aegeria inusitata* Hy. Edwards, 1881:201

"White Mts. N. H. (Morrison.) Andover, Mass. (F. G. Sanborn.)"

"Types. Coll. F. Tepper. Bost. Soc. Natural History."

SYNTYPES EXAMINED: 2 (1 in AMNH, 1 in MSU); (1) "*Aegeria inusitata* Hy. Ed., Type"; "Andover, Mass., F. G. Sanborn"; "No. 16013, Collection Hy.

Edw." (female, AMNH). (2) "*Aegeria inusitata* Hy. Edw. ♀, Type"; "W. Mts., N. H." (female, MSU).

DISCUSSION: Engelhardt writes, "Type of *Aegeria inusitata*, female, in the American Museum of Natural History." The sex was incorrectly determined by Edwards as a male. To avoid possible confusion in the future, the female syntype in the AMNH has been selected, labeled and is designated as the lectotype.

120. *Sesia ithacae* Beutenmuller, 1897:215

"Habitat: Ithaca, New York. One male and one female, No. 16755, Coll. Hy. Edwards, A. M. N. H."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Sesia ithacae* Beut., ♂, Type"; "Ithaca, N.Y., 26 July"; "No. 16755, Collection, Hy. Edwards" (male, lacks a head and most legs). (2) "*Sesia ithacae* Beut., ♀, Type"; "Ithaca, N.Y., 23 June 87"; "No. 16755, Collection, Hy. Edwards" (female, lacks head, mesothorax and wing, which may be in the pinning box with the specimen).

DISCUSSION: The better of the two syntypes is the male. Therefore, the male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

121. *Aegeria koebelei* Hy. Edwards, 1881:196

"1 ♂. Tallahassee, Florida. (A. Koebele.)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Aegeria koebelei* Hy. Edw., Type"; "No. 15932, Collection Hy. Edw."; "Genitalia mounted on slide no. 0012 T.D.E."

DISCUSSION: The above specimen lacks a locality label and appears to be very similar to a species known only from western Canada.

122. *Melittia lindseyi* Barnes and Benjamin, 1925:

14, new name pro *M. superba* B. & L., 1922

HOLOTYPE: Ipso facto type of *superba* B. & L.

123. *Grotea longipes* Möschler, 1876:313

"Flugelspannung 33 mm. Vorderflügelbreite 3.5 mm. ♂ ♀. Vereingete Staaten."

TYPE: Probably lost (Naumann, 1971).

124. *Trochilium luggeri* Hy. Edwards, 1891:108

"Length of body 20 mm. Exp. of wings 35 mm" (apparently describing a single specimen).

HOLOTYPE: Female, in the AMNH: "*Trochilium luggeri* Hy. Edw., Type"; "July 6/90"; "No. 15791, Collection Hy. Edw."

DISCUSSION: This description was part of an article by Otto Lugger concerning lepidopterous borers in trees near St. Anthony Park, Minnesota, which is the type-locality for this species.

125. *Aegeria lupini* Hy. Edwards, 1881:192

"2 ♂ 1 ♀. Marin & Mendocino Cos., Calif. (H.E. and O. Baron.)"

"Type Coll. Hy. Edwards."

SYNTYPES EXAMINED: 3 (all in the AMNH): (1) "*Aegeria lupini* Hy. Ed., Type"; "Marin Co., California"; "No. 15907, Collection Hy. Edw." (male). (2) "Mendocino Co., Calif."; "No. 15908, Collection Hy. Edw." (male). (3) "797"; "California"; "No. 15909, Collection Hy. Edw." (male).

DISCUSSION: It is our opinion that the above specimens represent the original type species even though the last two lack type labels and none is a female. Edwards often misidentified the sex. The first male syntype listed above from the AMNH has been selected, labeled, and is designated as the lectotype.

126. *Trochilium lustrans* Grote, 1880:213

"Dayton, O., Mr. G. R. Pilate."

HOLOTYPE: Female, in the AMNH: "*Trochilium lustrans* Grote, Type"; "Ohio, Pilate"; "No. 15897, Collection Hy. Edwards."

127. *Zenodoxus maculipes* Grote and Robinson, 1868:184

"Habitat.—Texas. (Belfrage)."

"Two specimens offer no perceptible difference except that of size . . ." (mentions both sexes, presumably had one of each sex on hand).

SYNTYPES EXAMINED: 1 (in AMNH): "*Zenodoxus maculipes* G. & R., Type 2/"; "Tex."; "No. 15998, Collection Hy. Edwards" (male).

DISCUSSION: An additional female from the MCZ was seen having the following labels: "*Zenodoxus maculipes* G. & R."; "Dallas, Tex., Boll"; "Type 929." It was collected by Boll instead of Belfrage, as in the original description, and therefore cannot be considered as a syntype. The male syntype from the AMNH listed above as Type 2/ has been selected, labeled, and is designated as the lectotype.

128. *Aegeria madariae* Hy. Edwards, 1881:201

"3 ♂ 2 ♀. On *Madaria elegans* Don. Saucelito, Calif., (H. E.)"

"Types. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 3 (2 in AMNH, 1 in NMNH): (1) "*Aegeria madariae* Hy. Ed., Type"; "Saucelito, California"; "No. 15953, Collection Hy. Edw." (female, AMNH). (2) "Saucelito, California"; "No. 15954, Collection Hy. Edw." (female, AMNH). (3) "*Aegeria madariae* Hy. Edw., Type"; "TYPE"; "*Aegeria madariae* Hy. Edw., Type"; "Typicum specimen"; "Saucelito, California" (female, NMNH, abdomen glued on).

DISCUSSION: Two males from the original series could not be found. Since the abdomen was glued on, the male syntype in the NMNH leaves some doubt as to its correct association. The female syntype in the AMNH labeled "Type" has been selected, labeled, and is designated as the lectotype.

129. *Melittia magnifica* Beutenmuller, 1899a:151

"Habitat: Austin, Texas."

"Described from one female, collected by Mr. Joseph Mattes."

HOLOTYPE: Female, in the AMNH: "*Melittia magnifica* Beuter., Type"; "Austin, Tex."

130. *Trochilium marginatum* Harris, 1839:309

"This insect was taken in New-Hampshire, and presented to me by the Rev. L. W. Leonard."

TYPE: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

131. *Bembecia marginata* var. *albicomma* Hulst, 1883:9

"This variety I would call *Bembecia Albicomma*. Of it I took 2 ♂ ♂ and 1 ♀, in Brooklyn, N.Y."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Bembecia marginata* var. *albicomma* Hulst, Type"; "No. 15789, Collection Hy. Edwards"; "A.M.N.H. Type No." (male). (2) "*Bembecia marginata* var. *albicomma* Hulst, Type"; "L. I."; "Collection, G. D. Hulst" (female).

DISCUSSION: The second syntype listed above has more accurate labeling; therefore, the female syntype from the AMNH has been selected, labeled, and is designated as the lectotype.

132. *Sesia marica* Beutenmuller, 1899c:254

"Habitat: Punta Gorda, Florida."

"Type, Coll. Am. Mus. Nat. Hist."

"Described from a perfect male collected by Mrs. A. T. Slosson."

HOLOTYPE: Male, in AMNH: "*Sesia marica* Beut., ♂, Type"; "Florida."

133. *Sesia mariona* Beutenmuller, 1901:308

"Habitat.—Trimble and Pagossa Springs, and Durango, Colorado, July 6th, 19th and 30th, 1899."

"Type: Two females, Coll. Dr. William Barnes, Decatur, Illinois. One female. Col. Am. Mus. Nat. Hist."

"Described from three females."

SYNTYPES EXAMINED: 3 (2 in NMNH, 1 in AMNH): (1) "*Sesia mariona* Beuten., ♀, Type"; "Fig."; "Trimble Spgs., Col., 6/19/99" (female, NMNH). (2) "*Sesia mariona* Beuten., ♀, Type"; "Pagossa Spgs., Col., 6/30/99" (female, NMNH). (3) "*Sesia mariona* Beuten., ♀, Type"; "Durango, Col., 6/6/99" (female, AMNH).

DISCUSSION: The female syntype in the NMNH from Trimble Spgs., Col. has been selected, labeled, and is designated as the lectotype, because it best represents the species as described originally.

134. *Pyrrhotaenia meadii* Hy. Edwards, 1881:204

"3 ♂. Lake Tahoe, Calif. (T. L. Mead)"

"Types. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Pyrrhotaenia meadii* Hy. Ed., Type"; "Lake Tahoe, Calif."; "No. 15972, Collection Hy. Edw." (male). (2) "Lake Tahoe, California"; "No. 15791, Collection Hy. Edw." (male).

DISCUSSION: The third male of the type series could not be found. The first male syntype in the AMNH having the handwritten type label has been selected, labeled; and is designated as the lectotype.

135. *Sesia mellinipennis* Boisduval, 1836: pl. 14; fig. 12

"Amerique septentrionale."

TYPES: Apparently lost or destroyed.

DISCUSSION: Engelhardt (1946) states, "Cotypes.—*R. mellinipennis*, two males, lost but figured by Boisduval." We were unable to find any of the types and therefore assume they are lost.

136. *Zenodoxus mexicanus* Beutenmuller, 1897:216

"Habitat: New Mexico. One male, No. 16756, Coll. A. M. N. H. Received from Prof. J. B. Smith."

HOLOTYPE: Male, in the AMNH: "*Zenodoxus mexicanus* Beut., Type"; "Collection, G. D. Hulst"; "No. 16756, Collection, Hy. Edwards"; "N. Mex."

137. *Trochilium minimum* Neumoegen, 1891:108

"Hab.—Denver, Col. Type ♂, coll. B. Neumoegen."

"Mr. D. Bruce caught this specimen, and informs me that its larva feeds on willow."

HOLOTYPE: Male, in the NMNH: "*Trochilium minimum* Neumoegen, Type"; "TYPE"; "Typicum specimen"; "Denver, Colo., D. Bruce."

138. *Aegeria mimuli* Hy. Edwards, 1881:200

"1 ♂. Colorado. (Morrison)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Aegeria mimuli* Hy. Edw., Type"; "Colorado"; "No. 15870, Collection Hy. Edw."; "♂ genitalia on slide, AB, Jan. 17, 1940."

139. *Carmenta minuta* Hy. Edwards, 1881:185

"1 ♂. Georgia. (Morrison)"

"Type. Coll. F. Tepper."

HOLOTYPE: Female, in MSU: "*minuta* Hy. Ed."; "Type"; "Georgia" (right forewing and abdomen missing).

DISCUSSION: The sex of the type had been misidentified by Edwards and is in fact a female.

140. *Albuna modesta* Kellicott, 1892a:46

"I propose this name for a species taken on the University campus at Columbus in August last, resting on foliage" (describes a female).

TYPE: Unknown.

141. *Albuna montana* Hy. Edwards, 1881:188

"21 Examples. ♂. ♀."

"White Mountains, N. H. (Morrison. Grote.) Nevada, Colorado. (Morrison.) Anticosti Isld. (Couper.) Sier. Nevada, Cal. (H.E.)"

"Colls. Tepper, Graef, Neumoegen, W. Grey, Dr. Bailey, Hy. Edwards, etc., etc."

SYNTYPES EXAMINED: 3 (2 in the AMNH, 1 in MSU): (1) "*Albuna montana* Hy. Edw., Type"; "Colorado"; "No. 15840, Collection, Hy. Edw." (female, AMNH). (2) "*Albuna montana* Hy. Edw., Type"; "Colorado"; "No. 15842, Collection, Hy. Edw." (female, AMNH). (3) "W. Mts., N. H."; "F. T."; "Type" (female, MSU).

DISCUSSION: Also examined were the following specimens from the Tepper-Morrison Collection at MSU: 2 ♂♂, 1 ♀, W. Mts., N. H., F. T.; 1 ♂ Mt. Hood; 1 ♂, Anticosti. Another ♀ in the AMNH from Colorado is No. 15841 in the Hy. Edwards Collection. These specimens are probably part of the original type series but lack Edwards' "type" labels. Apparently, Edwards in several instances labeled the type series of various species subse-

quent to writing the description; thus, all specimens of a series were not always labeled as a type, or specimens not in the series from which the description was written were later affixed with a type label. Engelhardt (1946) simply states, "Type.—Female. In the American Museum of Natural History." Since most of the Edwards types are in the AMNH, the female syntype from Colorado in the AMNH with Collection No. 15840 has been selected, labeled, and is designated as the lectotype.

142. *Harmonia morrisoni* Hy. Edwards, 1882a:55

"1 ♂, Montana Terr. Mr. H. K. Morrison, to whom I have much pleasure in dedicating the species."

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Harmonia morrisoni* Hy. Edw., Type"; "Mont."; "No. 15805, Collection Hy. Edw."

143. *Aegeria morula* Hy. Edwards, 1881:196

"1 ♂. Texas. (J. Boll.)"

"Type. Coll. B. Neumoegen."

HOLOTYPE: Male, in the NMNH: "*Aegeria morula* Hy. Edw. Type"; "Typicum specimen"; "Tex."

144. *Euhagena nebraskae* Hy. Edwards, 1881:181

"1 ♂. Nebraska. (Mr. Austin)."

"Type. Coll. Cambridge Museum."

HOLOTYPE: Male, in the MCZ: "*Euhagena nebraskae* Hy. Edw., Type"; "Nebraska, Austin"; "Type 930."

DISCUSSION: The type is in very bad condition, having come off the verdigris coated pin and been broken in several pieces in transit. What was left has been placed in a gelatin capsule.

145. *Euhagena nebraskae* form *intensa* Engelhardt, 1946:172

"Type.—U.S.N.M. No. 56850, female."

"Remarks.—For this unique and strikingly colored example, I am indebted to my good friend C. M. Dammers, of Riverside, Calif., who collected the specimen in the mountains at Barnwell, San Bernardino County, on October 12, 1936."

HOLOTYPE: Female, in the NMNH: "*Euhagena nebraskae intensa* Engelh., ♀"; "U.S.N.M. Type No. 56850, *E. nebraskae intensa* Engl."; "Fig."; "♀ Coll. by C. Dammers, 12 Oct. 1936, Barnwell, S. Bernardino Co."

146. *Aegeria neglecta* Hy. Edwards, 1881:197

"1 ♂. Olympia, Washington Ter. (H. E.)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Female, in the AMNH: "*Aegeria neglecta* Hy. Ed., Type"; "Washington, Ter., Jan."; "No. 15950, Collection Hy. Edw."

DISCUSSION: The type is a female and not a male as indicated in the original description.

147. *Euhagena nebraskae* form *mormoni* Engelhardt, 1946:171

"Type.—U.S.N.M. No. 56849."

"Remarks.—Only two male examples of this striking form of *nebraskae* are known. They are labeled 'Logan, Utah, September 20, 1923, W. W. Henderson, collector'."

HOLOTYPE: Male, in the NMNH: "*Euhagena mormonis* Engelh., ♂"; "USNM Type No. 56849, *mormoni* Engelh."; "Fig."; "For illustration"; "Coll. Engelhardt, G. P."; "Logan, Ut., Sept. 20, 1923"; "W. W. Henderson, Collector."

148. *Aegeria nicotianae* Hy. Edwards, 1881:202

"1 ♂. 1 ♀. Texas. (J. Boll.)"

"Types. Coll. B. Neumoegen."

SYNTYPES EXAMINED: 2 (both in NMNH): (1) "*Aegeria nicotianae* Hy. Edw., ♀, Type"; "TYPE"; "Typicum specimen"; "Tex." (male). (2) "*Aegeria nicotianae* Hy. Edw."; "Boll, from gall on *Q. nigra*. inquilinous—Bred Apr."; "J. Boll, Texas"; "*nicotianae*, ♂ genitalia on slide, AB, May 12, 1939" (male).

DISCUSSION: There is another male in the AMNH labeled "Tex."; "No. 15946, Collection Hy. Edw.", but lacks a type label as does the second syntype listed above. The first syntype listed above is a male and not a female as indicated on the label, and since it is the only specimen found labeled "Type," this male syntype in the NMNH has been selected, labeled, and is designated as the lectotype.

149. *Sesia nigella* Hulst, 1881:75

"Two specimens, ♂ and ♀, taken in coitu on a leaf of the swamp button-bush near Fairport, Western New York. The ♀, which was soon after by accident lost . . ."

SYNTYPES EXAMINED: 1 (in the AMNH): "*Sesia nigella* Hulst, Type"; "No. 15983, Collection Hy. Edwards" (male).

DISCUSSION: Since Hulst states that the female was lost, the male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

150. *Carmenta nigra* Beutenmuller, 1894:96

"Type: One female from Utah. Coll. Chas. Palm."

HOLOTYPE: Female, in the AMNH: "*Carmenta nigra* Beut., ♀, Type"; "Utah"; "No. 15934, Collection, Hy. Edwards."

151. *Sesia nomadaepennis* Boisduval, 1869:63

"Trouvée sur les fleurs."

HOLOTYPE: Male, in the NMNH: "Type, *S. nomadaepennis* Bdv., a/c Hofer"; "*Sesia nomadaepennis* Bdv., California, Sp.G. Sping. p. 399"; "*Sesia nomadaepennis*, Calif."; "Oberthur Collection"; "j'ai envoyé en Jly 1882 la peinture à M. Edwards, Ch. Ob."; "*Albuna pyramidalis* var. *montana* Hy. Edw., ♂"; "Typicum Specimen"; "Ex. Musaeo, Dris Boisduval."

152. *Aegeria novoaromensis* Hy. Edwards, 1881:199

"1 ♂. Soda Springs, Siskiyou Co., Cal. J. Behrens."

"1 ♀. Novaro, Mendocino Co., Cal. J. Behrens."
"Types. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Aegeria novoaromensis* Behrens, ♂ Type"; "Soda Springs, California"; "No. 15888, Collection Hy. Edw." (female). (2) "*Aegeria novoaromensis* Behrens, ♀, Type"; "Novarro, June, 76"; "No. 15889, Collection Hy. Edw." (female).

DISCUSSION: The first syntype was erroneously determined as a male in the original description. Because the second specimen has the date of capture, this female syntype from Novarro in the AMNH has been selected, labeled, and is designated as the lectotype.

153. *Aegeria odyneripennis* Walker, 1856:42

"Female."

"a. Nova Scotia. Presented by E. Doubleday, Esq."

"b-d. Nova Scotia. From Lieut. Redman's collection."

SYNTYPES EXAMINED: 4 (all in BMNH): (1) "71, *Aegeria odyneripennis*"; "R"; "N. Scotia, Redman"; "Type" (female). (2) "R"; "N. Scotia, Redman" (female). (3) "R"; "N. Scotia, Redman" (female). (4) "N. Scotia" (male).

DISCUSSION: Due to the more complete labeling, the first female syntype in the BMNH listed above has been selected, labeled, and is designated as the lectotype.

154. *Carmenta ogalala* Engelhardt, 1946:73

"Type.—U.S.N.M. No. 56834. Described from male holotype from Durango, Colo. (Oslar) . . . all in the United States National Museum."

HOLOTYPE: Male, in NMNH: "*Conopia ogalala* Engelh. ♂"; "USNM Type No."; "Coll. G. P. Engelhardt"; "Oslar, Durango, Col."

155. *Aegeria opalescens* Hy. Edwards, 1881:199

"3 ♂. Virginia City, Nevada. (H. E.)"

"1 ♀. Colorado. (Morrison.)"

"Type. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 2 (1 in NMNH, 1 in AMNH): (1) "*Aegeria opalescens* Hy. Edw., Type"; "TYPE"; "Typicum specimen"; "Nev." (male, NMNH). (2) "*Aegeria opalescens* Hy. Edw., Type"; "Colorado"; "No. 15834, Collection Hy. Edw." (male, AMNH).

DISCUSSION: Two additional males labeled "Nevada" and "F. T." are in the collection at MSU but lack the handwritten "type" labels, as does a male in the E. L. Graef Collection at the NMNH also labeled "Nev." It is impossible to say which of these males were part of the original type series. It is probably correct to assume that the male syntype from Colorado is in fact the female eluded to in the description, the sex being incorrectly determined. The male syntype in the NMNH has been selected, labeled, and is designated as the lectotype.

156. *Pyrrhotaenia orthocarpi* Hy. Edwards, 1881:204

"3 ♂. 1 ♀. On *Orthocarpus luteus*. Nutt. Washoe Lake, Nevada, (H. E.)"

"Types Coll. Hy. Edwards."

SYNTYPES EXAMINED: 3 (all in AMNH): (1) "*Pyrrhotaenia orthocarpi* Hy. Edw., Type"; "Nevada"; "5049"; "No. 15961, Collection Hy. Edw." (male). (2) "Nevada"; "5049"; "No. 15962, Collection Hy. Edw." (male). (3) "Nevada"; "5049"; "No. 15963, Collection Hy. Edw." (male).

DISCUSSION: The female of the type series could not be found. Three additional males labeled "Nevada" are at MSU, but like the second and third syntypes listed above, all lack a type label. The first male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

157. *Sannina pacifica* Riley, 1891:393

(Described both males and females from California.)

SYNTYPES EXAMINED: 9 (all in NMNH): (1) "*Sannina pacifica* Riley"; "U.S.N.M. Type No. 345"; "Santa Clara Co., Cal."; "June"; "417" (female). (2) "*pacifica* Riley"; "Santa Clara Co., Cal."; "July"; "417"; "Coll. G. P. Engelhardt" (female). (3) "Santa Clara Co., Cal."; "July"; "Barnes Collection" (female). (4) "Santa Clara Co., Cal."; "417"; "*Synanthedon opalescens pacifica* Riley, ♀"; "*opalescens* v. *pacifica* R., ♀ genitalia on slide, AB, Dec. 10, 1936" (female). (5) "Santa Clara Co., Cal."; "417"; "*Synanthedon opalescens pacifica* Riley, ♂"; "*opalescens* v. *pacifica* R., ♂ genitalia on slide, AB, Dec. 10, 1936" (male). (6) "Santa Clara Co., Cal."; "May"; "417"; "*Aegeria* in roots of peach"; "*Sanninoidea opalescens* Hy. Edw., ♂" (male). (7) "Santa Clara Co., Cal."; "July"; "417" (male). (8) "Santa Clara Co., Cal."; "July"; "417" (male). (9) "Santa Clara Co., Cal."; "June"; "417"; "Barnes Collection" (male).

DISCUSSION: Since no reference was made to any one type in the original description, all of the above specimens in NMNH are treated as syntypes. The first female listed above in the NMNH has been selected, labeled, and is designated as the lectotype.

158. *Trochilium pacificum* Hy. Edwards, 1881:180
"1 ♂. Washington Ter. (Morrison), 1 ♀. California, (R. H. Stretch)."

"Types. Coll. B. Neumoegen. J. Akhurst."

SYNTYPES EXAMINED: 3 (2 in AMNH, 1 in NMNH): (1) "*Trochilium pacificum* Hy. Edw. ♂; Type"; "Sta. Barbara, California"; "No. 15820, Collection, Hy. Edw." (male, AMNH). (2) "*Trochilium pacificum* Hy. Edw., ♀, Type"; "S. Bernardino, California"; "No. 15822, Collection, Hy. Edw." (female, AMNH). (3) "*Trochilium pacificum* Hy. Edw., Type"; "U.S.N.M. Type"; "Typicum specimen"; "Wash. Terr." (female, NMNH).

DISCUSSION: Engelhardt (1946) states, "Type.—Female. In the United States National Museum. Remarks.—Hy. Edwards' description of *Trochilium pacificum* is based on a female (Washington Territory). He had two specimens, stated to be male and female, but both are females. . . ." This interpretation is probably correct; therefore, the female syntype from Washington Territory in the NMNH has been selected, labeled, and designated as the lectotype.

159. *Paranthrene palmiana* Dalla Torre, 1925:160, new name pro *Larunda palmii* Neumoegen, 1891.

LECTOTYPE: Ipso facto type of *palmii* Neumoegen.

160. *Sesia palmii* Beutenmuller, 1902:126

"Habitat.—Phoenix, Arizona."

"Described from two males. Types, Collection Am. Mus. Nat. Hist., and Charles Palm."

LECTOTYPE: Female, in the NMNH; "*Sesia palmii* Beutm., Type"; "U.S.N.M. Lectotype, G. P. Engelhardt"; "Type"; "Phoenix, Ariz."

DISCUSSION: Engelhardt (1946) designated the lectotype stating, "Remarks.—Beutenmuller's description of this remarkable species is not based on the male, as stated, but on the female. The identity of the very dissimilar sexes was established many years after the description of the female in 1902. Of the three known female types from the original lot collected by Kuntze at Phoenix, Ariz., one is in the collection of the United States National Museum, bearing Beutenmuller's label and designation as type. It has been made the lectotype."

161. *Fatua palmii* Hy. Edwards, 1887:145

"1 ♀. Enterprise, Florida. Taken by Mr. C. Palm, to whom I dedicate the species."

HOLOTYPE: Female, in the AMNH: "*Fatua palmii* Hy. Edw., Type"; "Florida"; "No. 15792, Collection Hy. Edw."

162. *Larunda palmii* Neumoegen, 1891:108

"Hab.—South Arizona. Types, three males and one female; coll. Charles Palm and B. Neumoegen."

SYNTYPES EXAMINED: 4 (2 in AMNH, 2 in NMNH): (1) "*Larunda palmii* Neumoegen, ♂, Type"; "Ariz."; "Collection Chas. Palm" (male, AMNH). (2) "*Larunda palmii* Neumoegen, ♂, Type" (label appears to be in different handwriting than above male specimen); "Ariz."; "No. 16757, Collection Hy. Edw." (male, AMNH). (3) "*Larunda palmii* Neumoegen, ♀, Type"; "Ariz."; "TYPE"; "Typicum specimen" (female, NMNH). (4) "TYPE"; "Typicum specimen"; "Ariz." (male, NMNH).

DISCUSSION: Engelhardt states, "Type.—Male. In the United States National Museum . . ." However, the male listed above from the NMNH is poorly labeled and does not have a handwritten type label as on the other three syntypes. Since it

is fairly certain that the first syntype listed from the Palm Collection was used in the original description, this male syntype from the AMNH has been selected, labeled, and is designated as the lectotype.

163. *Zenodoxus palmii* race *incanae* Engelhardt, 1946:198

"Type.—U.S.N.M. No. 56857. From Yuma, Ariz."

"Food plant.—*Sphaeralcea incana*."

"Remarks.—Described from male type . . ."

HOLOTYPE: Male, in the NMNH: "USNM Type No. 56857, *incanae* Engelh."; "Yuma, Ariz., x pupa VI.15.35"; "root borer, *Sphaeralcea incana*"; "near *Zenodoxus palmii*, G.P.E."; "♂ genitalia on slide, AB, Nov. 23, 1935".

164. *Zenodoxus palmii* race *sphaeralceae* Engelhardt, 1946:198

"Type.—U.S.N.M. No. 56856. From Snake River, Whitman County, Wash., opposite Clarkson."

"Remarks.—Described from male type . . ."

HOLOTYPE: Male, in the NMNH: "USNM Type No. 56856, *sphaeralceae* Engelh."; "Snake River, Whitman Co., Wn., opp. Clarkston, E. 4-IX-37, J.F.G. Clarke"; "reared from *Sphaeralcea munroana*."

165. *Paranthrene pepsidiformis* Hubner, 1825:32, figs. 533, 534

"Heimath: Georgien in Nordamerika."

TYPE: Unknown.

166. *Alcathoe pepsioides* Engelhardt, 1946:103

"Type.—Male, in the United States National Museum."

HOLOTYPE: Male, in the NMNH: "*Alcathoe pepsioides* Engelhardt, Holotype, ♂"; "5302, on *Clematis ligusticifolia*, Durango, Col., iss, Jun. 7.99"; "♂ genitalia on slide no. 75941, T.D. Eichlin."

167. *Alcathoe pepsioides atra* Engelhardt, 1925b: 158

"Types. Holotype male and allotype female, collection G. P. Engelhardt, Brooklyn Museum."

"Described from three specimens collected by J. Woodgate in the mountains near Jemez Springs, N.M., at altitude of 7,000 feet."

HOLOTYPE: Male, in the NMNH: "*Alcathoe pepsioides* subsp. *atra* Engelhardt, Holotype, ♂"; "Aug. 8, 7000"; "Jemez Sprgs., N. M., Woodgate."

168. *Alcathoe pepsioides ferrugata* Engelhardt, 1946:105

"Types.—U.S.N.M. No. 56839. From Rifle, Colo."

HOLOTYPE: Male, in the NMNH: "*Alcathoe pepsioides* race *ferrugata* Engelh., Type, ♂"; "Rifle, Colo., xp. VIII.28. 1927"; "Coll. G. P. Engelhardt."

169. *Memythrus perlucida* Busck, 1915:80

"Type: Cat. No. 19223, U.S.N.M."

"Reared by Mr. Brunner from *Populus trichocarpa*."

HOLOTYPE: Female, in the NMNH: "*Memythrus perlucida* Busck, ♀ Type"; "*Populus trichocarpa*"; "Missoula, Mont., J. Brunner, Colr."; "Jun. 5/14, reared"; "12339, Hopk. U.S."; "Genitalia Slide, By T. D. Eichlin, USNM 75999."

DISCUSSION: In addition to the female specimen labeled "Type" in the NMNH, there are two males and one female labeled "Cotype", all with Cat. No. 19223.

170. *Aegeria perplexa* Hy. Edwards, 1881:192

"1 ♂. Texas. (J. Boll.)"

"Type. Coll. B. Neumoegen."

HOLOTYPE: Male, in the NMNH: "*Aegeria perplexa* Hy. Edw., Type"; "TYPE"; "Typicum specimen"; "B. N."; "Tex."

171. *Apis persica* Thomas, 1824:37

"Wings violet blue."

"Abdomen blue, with one interrupted yellow band."

TYPE: Unknown.

DISCUSSION: There is no mention of the number of specimens upon which the description was written or where the series was kept, if it was kept at all. The species was reared from peach trees in Baltimore, Maryland, and the description is obviously of a female of the peach tree borer, *Sanninoidea exitiosa* (Say), even though the author considered it to be a hymenopteran.

172. *Carmenta phoradendri* Engelhardt, 1946:51

"Type.—U.S.N.M. No. 56829, male. Collected at San Antonio, Tex."

HOLOTYPE: Male, in NMNH: "*Conopia phoradendri* Engelh. ♂"; "U.S.N.M. Type No"; "Coll., G. P. Engelhardt"; "San Antonio, Tex., IV.15. 1928."

173. *Parharmonia piceae* Dyar, 1904:106

"Three specimens, Hoquiam, Wash. (H. E. Burke), bred on *Picea sitchensis*; Keyport, Wash. (C. V. Piper)."

"Type.—No. 7837, U.S. National Museum."

SYNTYPES EXAMINED: 3 (all in NMNH): (1) "*Parharmonia (Sesia) piceae* Dyar, Type"; "U.S.N.M. Type No. 7837"; "*Picea sitchensis*"; "Burke Colr., Hoquiam, Wn."; "2454a, Hopk.U.S." (male, abdomen has been glued on). (2) "Keyport, Wash."; "U.S.N.M. Type No. 7837" (female, abdomen missing). (3) "Keyport, Wash."; "U.S.N.M. Type No. 7837" (female, abdomen missing).

DISCUSSION: Due to the relatively better condition of the specimen and the exactness of the label data, the male syntype in the NMNH has been selected, labeled, and is designated as the lectotype.

174. *Aegeria pictipes* Grote and Robinson, 1868:182

"Habitat.—Atlantic District, (Penna.)."

TYPES: Lost (Engelhardt, 1946).

DISCUSSION: Grote and Robinson describe both the male and female. The male is figured on pl. 2: fig. 64.

175. *Aegeria pini* Kellicott, 1881:5

"During the past summer I succeeded in getting the moth of one of them. . . ." "The moth (female) expands 1.2 inch." "The male not seen."

TYPE: Unknown.

DISCUSSION: Engelhardt (1946) states, "Type.—Male, In the collection of D. S. Kellicott." The type was not found.

176. *Aegeria pinorum* Behrens, 1889:163

The description appeared in an article by G. H. French, Carbondale, Illinois, in which he writes, "It comes from Monterey, in *Pinus insignis*, from which larvae have been obtained. From these larvae he bred one specimen from which the drawing was made."

"Mr. Behrens did not state whether the specimen was a male or a female, but I think from the drawing it was a male."

HOLOTYPE: Unknown.

DISCUSSION: It is not clear whether Behrens or French retained the specimen, but it was probably the former since the drawing and brief description had been forwarded to French and not the specimen itself.

177. *Aegeria pleciaeformis* Walker, 1856:40

"Male."

"a. Nova Scotia. From Lieut. Redman's collection."

HOLOTYPE: Male, in the BMNH: "66, *Aegeria pleciaeformis*"; "N. Scotia"; "Type."

178. *Aegeria polistiformis* Harris, 1854:216

"The roots of cultivated grape vines in the Southeastern States have been observed, by Dr. F. J. Kron, of Albermarle, North Carolina, to be so much injured by borers as to prevent the ripening of the fruit, and finally to cause the decay and death of the vines." "He has also favored me with samples of injured vine-roots, and specimens of the insects in all their stages, together with an account of his observations and experiments upon them."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

179. *Vitacea polistiformis* form *huron* Engelhardt, 1946:154

"Type.—U.S.N.M. No. 56847. Described from male type from Pentwater, Mich., and female paratype from Miller, Ind."

HOLOTYPE: Male, in the NMNH: "*Paranthrene polistiformis huron*, Engelh., ♂"; "Pentwater, Mich., VII.20.20"; "Col. by E. Liljebblad"; "Coll., Engelhardt, G. P."

180. *Pyrrhotaenia polygona* Hy. Edwards, 1881:202

"♂. San Miguel, Calif. (H. E.) On *Polygonum maritimum*. L."

"Type. Coll. Hy. Edwards."

HOLOTYPE: Female, in the AMNH: "*Pyrrhotaenia polygona* Hy. Edw., Type"; "S. Miquel, California"; "No. 15970, Collection Hy. Edw."

DISCUSSION: The specimen Edwards described was a female and not a male as indicated.

181. *Zenodoxus potentillae* Hy. Edwards, 1881:205

"1 ♂. 2 ♀. Lake Tahoe, Cal. San Rafael, Cal. (H. E.) With *Z. heucherae*."

"Type. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 3 (all in AMNH): (1) "*Zenodoxus potentillae* Hy. Edw., Type"; "Sierra Nev., Cal."; "No. 15993, Collection Hy. Edw." (female). (2) "5051, Sierra Nev., Cal."; "No. 15996, Collection Hy. Edw." (badly damaged, sex undetermined). (3) "California"; "1278"; "No. 15995, Collection Hy. Edw." (male).

DISCUSSION: One additional specimen in the NMNH labeled, "5051, Sierra Nev., Cal."; "No. 15994, Collection Hy. Edwards", may be part of the material from which this species was described, but only three specimens were mentioned in the original description. The first female syntype listed above from the AMNH has been selected, labeled, and is designated as the lectotype.

182. *Sciapteron praecedens* Hy. Edwards 1883:155
"1. ♀ N. Carolina. Coll. B. Neumoegen."

HOLOTYPE: Female, in the NMNH: "*Sciapteron praecedens* Hy. Edw., ♀ Type"; "Type" "Typicum specimen"; "N. C."; "Genitalia Slide, By T. D. Eichlin, USNM 75900."

183. *Aegeria praestans* Hy. Edwards, 1882b:98

"1 ♂. Washington Ter. (H. K. Morrison)."
"Type, Coll. B. Neumoegen."

HOLOTYPE: Male, in the NMNH: "*Aegeria praestans* Hy. Ed., Type"; "*Pyrrhotaenia praestans* Hy. Edw."; "TYPE"; "Typicum specimen"; "Was. T."

184. *Aegeria prosopis* Hy. Edwards, 1882b:99

"Arizona. 1 ♂. Coll. Hy. Edwards."

"This singular species was raised from a gall on the Mesquit. (*Prosopis juliflora*, D.C.)"

HOLOTYPE: Male, in the AMNH: "*Aegeria prosopis* Hy. Ed., Type"; "from galls of Mesquit, Ft. Grant, Ariz., May.82"; "No. 15943, Collection, Hy. Edw."

185. *Aegeria proxima* Hy. Edwards, 1881:201

"White Mts. N. H. (Morrison)."

"Type. Coll. F. Tepper."

HOLOTYPE: Female, in MSU: "*Aegeria proxima* Hy. Edw., Type"; "White Mts., N. H."; "F. T."

186. *Aegeria pyralidiformis* Walker; 1856:44

"Female."

"a. United States. Presented by E. Doubleday. Esq."

HOLOTYPE: Female, in the BMNH: "*Aegeria pyralidiformis*, Type, ♀"; "74, *Aegeria pyralidiformis*"; "46.110, U.S."; "Type"; "F3/10."

187. *Carmenta pyralidiformis* var. *aurantis* Engelhardt, 1946:47

"Type.—U.S.N.M. No. 56827, male. Also female allotype, 32 male and 28 female paratypes. Collected at Mobile, Ala. In the United States National Museum."

HOLOTYPE: Male, in the NMNH: "*Synanthedon pyralidiformis* sub sp. *aurantis* Engelhardt, ♂ Type"; "Coll. G. P. Engelhardt"; "Mobile, Ala., IX.19.13, Dukes."

188. *Aegeria pyramidalis* Walker, 1856:40

"a-e. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston" (described only the male).

SYNTYPES EXAMINED: 1 (in BMNH): "*Sesia pyramidalis*, no. 229, 514 (very difficult to read, could be 915)"; ". . . (unreadable)"; "Type, ♂"; "F.317"; "Type" (male).

DISCUSSION: One other specimen, a female, with very similar labeling was seen in the BMNH but had the label, "N. Scotia, Redman" and, therefore, could not be considered as a syntype. No other syntypes could be found, so the above mentioned male syntype in the BMNH has been selected, labeled, and is designated as the lectotype.

189. *Aegeria pyri* Harris, 1830:2

"There is an insect which has lately been discovered in the trunks of the pear tree, feeding beneath the bark."

"Mr. Downer furnished me with some of these insects . . ."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

190. *Aegeria querci* Hy. Edwards, 1882a:48

"From galls of 'Live oak,' Arizona."

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Aegeria querci* Hy. Ed., Type"; "from galls of live oak, St. Grnad, Ariz., April.1882"; "No. 15942, Collection, Hy. Edw."

191. *Aegeria? quinque-caudata* Ridings, 1862:277

"Obs. This remarkable species was captured by myself in Middletown, Frederick County, Virginia, and is now in the collection of the Entomological Society of Philadelphia."

(He described and figured a male specimen.)

TYPE: Unknown.

192. *Aegeria refulgens* Hy. Edwards, 1881:199

"1 ♂. Georgia. (Morrison)."

"Type. Coll. F. Tepper."

HOLOTYPE: Female, in MSU: "Type"; "F. T."; "Georgia."

DISCUSSION: Note that the sex of the type is a female and not a male as indicated erroneously by Edwards.

193. *Albuna resplendens* Hy. Edwards, 1881:186

"1 ♂. Soda Springs, Siskiyou county, Cal. (I. Behrens.) 2 ♀. Sierra Nevada, Cal. (S. Brannan.)" "Type. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 1 (in AMNH): "*Albuna resplendens* Hy. Edw., Type"; "Soda Springs, California"; "No. 15872, Collection Hy. Edw."; "Genitalia mounted on slide no. 0011 T.D.E." (female).

DISCUSSION: Engelhardt (1946) says, "Type.—Female. Collected in Siskiyou County, Calif. In the United States National Museum." This specimen could not be found. Also, the two females from Sierra Nevada, California, were not found. The above listed specimen labeled "Type" is thought to be the specimen from Soda Springs mentioned in the original description, but Edwards had misidentified the sex. The female syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

194. *Sesia rhododendri* Beutenmuller, 1909:82

"Habitat.—Cheltenham, Pa."

"Described from twenty-five specimens kindly sent to me by Prof. H. A. Surface, the economic zoologist of Pennsylvania."

SYNTYPES EXAMINED: 19 (12 NMNH, 4 AMNH, 1 MCZ, 2 ANSP): (1) "*Sesia rhododendri* Beut."; "COTYPE No., A.M.N.H."; "Bred Spem, V-26"; "Cheltenham, Pa., V-2"; "9025b" (male, NMNH). (2) "*Sesia rhododendri* Beut."; "COTYPE No., A.M.N.H."; "Bred Spem, V-24"; "Cheltenham, Pa., V-2"; "9025b" (male, NMNH). (3) "*Sesia rhododendri* Beut."; "COTYPE No., A.M.N.H."; "Bred Spem, V-21"; "Cheltenham, Pa., V-2"; "9025b" (male, NMNH). (4) "*Sesia rhododendri* Beut."; "COTYPE No., A.M.N.H."; "U.S.N.M. Cotype No. 12204"; "Bred Spem, VI-29"; "Cheltenham, Pa., V-2"; "9025b" (male, NMNH). (5) "*rhododendri* Beut., ♂"; "COTYPE No., A.M.N.H."; "Bred Spem, VI-16"; "Cheltenham, Pa., V-2"; "9025b"; "♂ genitalia on slide, June 4, 1940, J.F.G.C. 3003" (male, NMNH). (6) "*Sesia rhododendri* Beutm., ♂"; "*Synanthedon rhododendri* Beuten., ♂"; "COTYPE No."; "Bred Spem, V-28"; "Cheltenham, Pa., V-2" (male, NMNH). (7) "*Synanthedon rhododendri* Beuten., ♀"; "COTYPE No., A.M.N.H."; "Bred Spem, V-28"; "Cheltenham, Pa., V-2";

"9025b" (male, NMNH). (8) "*Sesia rhododendri* Beutm., ♂"; "COTYPE No."; "Bred Spem, V-28"; "Cheltenham, Pa., V-2" (male, NMNH). (9) "*Sesia rhododendri* Beut., ♀"; "COTYPE No. A.M.N.H."; "U.S.N.M. Cotype No."; "Bred Spem, V-30"; "Cheltenham, Pa., V-2"; "9025b" (female, NMNH). (10) "*Sesia rhododendri* Beut., ♀"; "COTYPE No. A.M.N.H."; "Bred Spem, VI-2"; "Cheltenham, Pa., V-2"; "9025b" (female, NMNH). (11) "*Sesia rhododendri* Beutm., ♀"; "COTYPE"; "Bred Spem, VI-13"; "Cheltenham, Pa., V-2" (female, NMNH). (12) "COTYPE No. A.M.N.H."; "Bred Spem, VI-21"; "Cheltenham, Pa., V-2"; "9025b" (female, NMNH). (13) "*Sesia rhododendri* Beut."; "Bred Spem, V-26"; "Cheltenham, Pa., V-2"; "9025b" (male, AMNH). (14) "*Sesia rhododendri* Beut."; "Bred Spem, V-28"; "Cheltenham, Pa., V-2"; "9025b" (male, AMNH). (15) "*Sesia rhododendri* Beut."; "Bred Spem, VI-6"; "Cheltenham, Pa., V-2"; "9025b" (female, AMNH). (16) "*Sesia rhododendri* Beut."; "Bred Spem, VI-2"; "Cheltenham, Pa., V-2"; "9025b" (female, AMNH). (17) "*Sesia rhododendri* Beutm., Type ♂"; "Bred Spem, VI-18"; "Cheltenham, Pa., V-2"; "9025b"; "TYPE"; "M.C.Z. Paratype 25570" (female, MCZ). (18) "*Sesia rhododendri* Beut."; "Bred Spem, VI-4"; "Cheltenham, Pa., V-2"; "9025b"; Co-TYPE, A.M.N.H."; "Type No. 5000.1" (male, ANSP). (19) "*Sesia rhododendri* Beut."; "Bred Spem, VI-4"; "Cheltenham, Pa., V-2"; "9025b"; "Co-TYPE, A.M.N.H."; "Type No. 5000.2" (female, ANSP).

DISCUSSION: The remaining six syntypes could not be located. Most of the specimens of the type series were not spread. The male syntype listed above as (8) from the NMNH has been selected, labeled, and is designated as the lectotype.

195. *Conopia richardsi* Engelhardt, 1946:87

"Type.—U.S.N.M. No. 56837, male. Allotype female and two male and two female paratypes also in the United States National Museum."

"Remarks.—Holotype, allotype, and one male and one female paratype were collected on flowers in moist meadows along a river in Clarke County, Ga., June 15, 1928 (A. Glenn Richards)."

HOLOTYPE: Male, in the NMNH: "*richardsi* Engelh., ♂"; "USNM Type No. 56837, *richardsi* Engelh."; "Coll. G. P. Engelhardt"; "Clarke Co., Georgia, Jun. 15, 1928, Richards."

196. *Albuna rileyana* Hy. Edwards, 1881:187

"1 ♀. Cadet, Missouri. (Prof. C. V. Riley.)"

HOLOTYPE: Female, in the AMNH: "*Albuna rileyana* Hy. Edw., ♀, Type"; "Cadet, Mo., Aug. 25/77"; "No. 15867, Collection Hy. Edw."

DISCUSSION: Engelhardt (1946) writes, "United States National Museum records: Cadet, Mo., female type, August 25, 1877? (Riley) . . ." This specimen could not be found in the NMNH and probably refers to the type in the AMNH. There is a female labeled in the NMNH ". . . Type 2"; "Col.", but is in fact not conspecific with *rileyana*.

197. *Sciapteron robiniae* Hy. Edwards, 1880:72

"2 ♂, 3 ♀. Contra Costa County, Cal.; Virginia City, Nev."

SYNTYPES EXAMINED: 4 (all in AMNH): (1) "*Sciapteron robiniae* Hy. Edw., Type"; "3496, Nevada"; "No. 15786, Collection Hy. Edw." (male). (2) "*Sciapteron robiniae* Hy. Edw., Type"; "3496, Califor." (female). (3) "3496, Nevada"; "No. 15787, Collection Hy. Edw." (female). (4) "3496, Nevada"; "No. 15788, Collection Hy. Edw." (female).

DISCUSSION: The other male specimen mentioned in the original description could not be found. Engelhardt (1946) simply states, "Type.—Male. In the American Museum of Natural History." To avoid any possible confusion in the future, the male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

198. *Paranthrene robiniae* form *palescens* Engelhardt, 1946:144

"Type.—U.S.N.M. No. 56846. From Palm Springs, Calif."

"Described from female type and female paratype from the type locality."

HOLOTYPE: Female, in the NMNH: "*Paranthrene robiniae palescens* Engelh., ♀"; "USNM Type No. 56846, *palescens* Engelh." "Fig."; "Palm Spg. Canyon, VI.24.1921 (?), Calif."

199. *Zenodoxus rubens* Engelhardt, 1946:200

"Type.—U.S.N.M. No. 56860."

"Remarks.—Described from male holotype, female allotype, 4 male and 3 female paratypes from Davis Mountains, and one male paratype from Globe, Ariz."

HOLOTYPE: Male, in the NMNH: "*Zenodoxus rubens* Engelhardt, ♂ Holotype"; "for illustra-

tion"; "Davis Mts., Tex., X.10–15.1928, 5000 ft., O. C. Poling."

200. *Sesia rubescens* Hulst, 1881:76

"One specimen from Colorado."

HOLOTYPE: Female, in the AMNH: "*Sesia rubescens* Hulst Type"; "Col."; "No. 15856, Collection, Hy. Edwards."

201. *Aegeria rubi* Riley, 1874:111

"Described from 6 ♂'s, 6 ♀'s, bred from *Rubus*."

SYNTYPES EXAMINED: 7 (all in NMNH): (1) "*Trochilium rubi* Riley"; "9589, *Trochilium rubi*, iss: Sept. 26/72"; "Type No. 344, U.S.N.M." (female). (2) "Type No. 344, U.S.N.M." (male). (3) "9589, *Trochilium rubi*, iss: Sept. 20/78"; "Type No. 344, U.S.N.M." (female). (4) "9589, iss: Oct. 14/78" (male). (5) "9589, iss: Oct. 18/78" (female). (6) "9589, iss: Oct. 21/78" (male). (7) "On blackberry, Sept. 20/78" (male).

DISCUSSION: The year 72 on the label of the first syntype appears at first glance to read 78, but the 8 on closer examination turns out to be a poorly written 2. The remaining syntypes were apparently labeled subsequently, and 78 was erroneously carried over. None of the syntypes are in very good shape and the best male specimen lacks label data. The first female syntype in the NMNH listed above has been selected, labeled, and is designated as the lectotype.

202. *Sesia rubicincta* Beutenmuller, 1909:84

"Habitat. — Palmerlee, Cochise County, Ariz. August."

"Type, one female, collection of Brooklyn Institute of Arts and Sciences, collected by Jacob Doll."

HOLOTYPE: Female, in the NMNH; "*Sesia rubicincta* Beut., Type"; "TYPE"; "Type No."; "Fig."; "C. Shaeffer"; "Palmerly, Cochise Co., Ariz., VIII."

203. *Aegeria rubristigma* Kellocott, 1892b:211

"One male and one female obtained."

"Obtained from Cynips gall on twigs of *Quercus palustris*, collected by my friend, E. E. Bogue, at Sugar Grove, Ohio, and by myself at Central College, Ohio. One imago appeared June 10 and one July 15."

SYNTYPES EXAMINED: 1 (male, in AMNH): "*Ae-*

geria rubristigma Kellicott, Type"; "Ohio"; "No. 15944, Collection Hy. Edwards."

DISCUSSION: Since the female of the type series could not be found, the male syntype above in the AMNH has been selected, labeled, and is designated as the lectotype.

204. *Aegeria rubofascia* Hy. Edwards, 1881:191

"1 ♂. Georgia. (Morrison.)"

"Type. Coll. E. L. Graef."

HOLOTYPE: Male, in the AMNH: "*Aegeria rubofascia* Hy. Ed., Type"; "No. 15893, Collection Hy. Edw."; "Ga."

205. *Carmenta ruficornis* Hy. Edwards, 1881:184

"1 ♂. Georgia. (Morrison.)"

"Type. Coll. E. L. Graef."

HOLOTYPE: Male, in the NMNH: "*Carmenta ruficornis* Hy. Ed."; "Col., E. L. Graef"; "TYPE"; "Ga."

206. *Albuna rutilans* Hy. Edwards, 1881:186

"1 ♀. Virginia City, Nevada. (H. E.)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Female, in the AMNH: "*Aegeria rutilans* Hy. Edw., Type"; "Nevada"; "5048"; "No. 15915, Collection Hy. Edw."

207. *Carmenta sanborni* Hy. Edwards, 1881:185

"2 ♂. 1 ♀. Andover, Mass. (F. G. Sanborn.)"

"Types. Coll. Boston Soc. Natural History."

SYNTYPES EXAMINED: 1 (in AMNH): "*Carmenta sanborni* Hy. Ed., Type"; "Andover, Mass."; "No. 15933, Collection, Hy. Edw." (female).

DISCUSSION: Engelhardt (1946) states, "Types.—Female. In the Boston Society of Natural History. Remarks.—The original description of *sanborni*, said to be based on two females and one male, applies to the female alone. It is doubtful whether Hy. Edwards had male examples of the species, as sexual dissimilarities would have made their recognition unavoidable. The types are two females." Since the type-material from the Boston Society of Natural History has to date not been located and may be lost or destroyed, the female syntype from the AMNH has been selected, labeled, and is designated as the lectotype.

208. *Aegeria sapygaeformis* Walker, 1856:45–46

"Male."

"a. United States. Presented by E. Doubleday, Esq."

HOLOTYPE: Male, in the BMNH: "*Aegeria sapygaeformis*, Type, ♂"; "78, *Aegeria sapygaeformis*"; "46.110, U.S."; "237"; "Type."

209. *Aegeria saxifragae* Hy. Edwards, 1881:190

"1 ♂. Colorado. (Morrison.)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Aegeria saxifragae* Hy. Edw., ♂, Type"; "Colorado"; "No. 15885, Collection Hy. Edw."

210. *Sciapteron scepiformis* Hy. Edwards, 1881:183

"1 ♂. 1 ♀. Texas. (J. Boll.)"

"Type. Coll. B. Neumoegen."

SYNTYPES EXAMINED: 1 (NMNH): "TYPE, Holo."; "*Sciapteron scepiformis* Hy. Edw., Type"; "Typicum specimen"; "Tex." (female).

DISCUSSION: The male syntype mentioned by Edwards could not be found; therefore, the female syntype in the NMNH has been selected, labeled, and is designated as the lectotype.

211. *Aegeria scitula* Harris, 1839:313

"Expands about eight lines."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

212. *Sesia seminole* Beutenmuller, 1899c:255

"Habitat: Lake Worth, Florida."

"Collected by Mrs. A. T. Slosson. Types Coll. Am. Mus. Nat. Hist."

SYNTYPES EXAMINED: 4 (3 in AMNH, 1 in NMNH): (1) "*Sesia seminole* Beut., ♂, Type"; "Florida"; "*Seminole* B., ♂ genitalia on slide, AB, Jan. 16, 1940" (male, AMNH). (2) "*Sesia seminole* Beut., ♀, Type"; "Florida" (female, AMNH). (3) "*Sesia seminole* Beut., ♀, Type"; "Florida" (female, AMNH). (4) "*Sesia seminole* Beut., ♀, Type"; "Lake Worth, Fla." (female, NMNH).

DISCUSSION: Engelhardt (1946) writes, "Male.—The unique type was figured by Beutenmuller. Through the courtesy of the American Museum of Natural History it was possible to prepare a slide of the genitalia of the type." Undoubtedly, he refers to the male syntype listed above. However, since the specimen was not labeled holotype and was not designated as a lectotype, to avoid possible confusion in the future, the male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

213. *Sciapteron seminole* Neumoegen, 1894:330

"Hab.—Florida. Type ♀ coll. B. Neumoegen."

HOLOTYPE: Female, in the NMNH: "*Sciapteron seminole* Neumoegen, Type, ♀"; "Typicum specimen"; "Fla."

214. *Aegeria senecioides* Hy. Edwards, 1881:198

"1 ♂. California. On *Senecio Douglasii*. D. C. (H. E.)"

"1 ♀. Nevada. (H. K. Morrison.)"

"Types. Coll. Hy. Edwards. F. Tepper."

SYNTYPES EXAMINED: 2 (1 in AMNH, 1 in MSU): (1) "*Aegeria senecioides* Hy. Ed., Type"; "7982"; "California"; "No. 15975, Collection Hy. Edw."; "*senecioides*, ♂ genitalia on slide, AB, Jan. 18, 1940." (2) "*Aegeria senecioides* Hy. Edw."; "Nevada"; "F. T." (female, MSU).

DISCUSSION: Since the male syntype from AMNH has a type label and a slide prepared of the genitalia, it has been selected, labeled, and is designated as the lectotype.

215. *Bembecia sequoiae* Hy. Edwards, 1881:181

"8 ♂. 6 ♀. Mendocino Co., Calif. (O. Baron)."

SYNTYPES EXAMINED: 6 (4, AMNH, 2, NMNH): (1) "*Bembecia sequoiae* Hy. Ed., ♂"; "Mendocino Co., California"; "No. 15811, Collection Hy. Edw." (male, AMNH). (2) "*Bembecia sequoiae* Hy. Ed., ♀"; "Medicino Co., California"; "No. 15811, Collection Hy. Edw." (female, AMNH). (3) "Mendicino Co., California"; "No. 15811, Collection Hy. Edw." (male, AMNH). (4) "Mendicino Co., California"; "No. 15811, Collection Hy. Edw." (female, AMNH). (5) "*Bembecia sequoiae* Hy. Edw., Cala., Coll. Edw. L. Graef." "Mendicino Co., California" (female, NMNH). (6) "*Bembecia sequoiae* Hy. Edw."; "*Bembecia sequoiae* Hy. Edw., Amer. Bor."; "Oberthur Collection"; "Mendicino Co., California" (female, NMNH, abdomen and head missing).

DISCUSSION: Only 6 of 14 specimens mentioned by Edwards in the original description could be located. It should be noted that none of the syntypes listed above had a type label, and it is assumed that no type labels in Edwards's handwriting were made for the type series. The first male syntype listed above from the AMNH has been selected, labeled, and is designated as the lectotype.

216. *Aegeria sexfasciata* Hy. Edwards, 1881:193

"2 ♂ Texas. (J. Boll. Belfrage.)"

"Types Coll. Hy. Edwards, B. Neumoegen."

SYNTYPES EXAMINED: 2 (1 in the AMNH, 1 in the NMNH): (1) "*Aegeria sexfasciata* Hy. Edw., Type"; "Dallas, Tex., Boll"; "No. 15903, Collection Hy. Edw."; "agrees with type of *S. bollii* Hy. Edw." (male, AMNH). (2) "*Aegeria sexfasciata* Hy. Ed."; "TYPE"; "Typicum specimen"; "Tex." (male, NMNH).

DISCUSSION: Another specimen in the NMNH labeled ". . . Type" cannot be part of the type series since it is from "N. C." The male syntype from the AMNH has been selected, labeled, and is designated as the lectotype.

217. *Zenodoxus sidalceae* Engelhardt, 1946:196

"Type.—U.S.N.M. No. 56855."

"Remarks.—Described from male type, female, allotype, 5 male and 4 female paratypes from Pullman, Wash., and reared by J. F. Gates Clarke . . ."

HOLOTYPE: Male, in the NMNH: "*Zenodoxus sidalceae* Engelh., ♂, Type"; "5847"; "Collection, J. F. Clarke"; "reared from *Sidalcea nervata*"; "Pullman, Wa., J. F. Clarke, 29.VII.34."

218. *Sesia sigmoidea* Beutenmuller, 1897:214

"Habitat: Walpole, Mass. One female, No. 15948, Coll. Hy. Edwards, A. M. N. H."

HOLOTYPE: Female, in the AMNH: "*Sesia sigmoidea* Beut., ♀, Type"; "from Willow, Miss C. Guild, Walpole, Mas."; "No. 15948, Collection Hy. Edwards"; "*Aegeria asiliformis* Rott."

219. *Trochilium simulans* Grote, 1881:78

"Illinois, Algonquin. Collected by Dr. Nason, June 27th." Grote: "(my type is in perfect condition)."

HOLOTYPE: Female, in the AMNH: "*Trochilium simulans* Grote, Type"; "N. Ill."; "June 27, Algon."; "No. 15790, Collection Hy. Edwards."

220. *Melittia snowii* Hy. Edwards, 1882a:53

"2 ♂, Kansas, Prof. Snow, to whom I regardfully dedicate this very interesting species."

SYNTYPES EXAMINED: 1 (in the AMNH): "*Melittia snowii* Hy. Edw., Type"; "Kan., Snow"; "No. 15769, Collection Hy. Edwards" (Male).

DISCUSSION: Edwards mentions two specimens in the type series, but only the above syntype could be found. Therefore, the male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

221. *Larunda solituda* Hy. Edwards, 1881:182

"♂. ♀. Texas (J. Boll.) (Coll. B. Neumoegen.) Kansas (H. Brous.) (Coll. C. V. Riley.)"

SYNTYPES EXAMINED: 1 (in NMNH): "*Larunda solituda* Hy. Edw., Type"; "*Larunda solituda* Hy. Edw., Type"; "Typicum specimen"; "Tex." (male).

DISCUSSION: Though at least three specimens were indicated by Edwards in his description, only one male could be found. Therefore, the male syntype in the NMNH has been selected, labeled, and is designated as the lectotype.

222. *Pyrrhotaenia subaerea* Hy. Edwards, 1883:156

"♂ . . . 1 example. Arizona. Coll. B. Neumoegen."

HOLOTYPE: Male, in the NMNH: "*Pyrrhotaenia subaerea* Hy. Edw., Type"; "TYPE"; "Typicum specimen"; "Arizona"; "*subaerea*, ♂ genitalia on slide, AB, May 24, 1939."

223. *Carmentia suffusata* Engelhardt, 1946:74

"Type.—Only three rather worn examples are at hand. The type from McAlester, Pittsburg County, Okla., is labeled 'bred from root,' April 19 (C. E. Hood). The name of the plant is lacking. The paratypes, two females, come from Wichita National Forest, Comanche, Okla., July 14, 1931 (R. H. Painter), and from Sharon Springs, Wallace County, Kans. (A. B. Klots)."

SYNTYPES EXAMINED: 2 (both in NMNH): (1) "*Chamaesphacia suffusata* Engelh., ♂"; "Fig."; "C. E. Hood, Collector"; "bred from root"; "emerged on 4/19"; "McAlester, Okl., 4/5" (male). (2) "*Chamaesphacia suffusata* Engelh. ♂"; "C. E. Hood Collector"; "bred from root"; "emerged on 4/19"; "McAlester, Okl., 4/15"; "♂ genitalia on slide, AB, Mar. 27, 1939" (male).

DISCUSSION: Engelhardt mentions three examples from three different localities. His collection at the NMNH contains three specimens, two labeled as above, and one female, his paratype from Comanche, Oklahoma. The other female paratype which he mentions from Kansas is not in the NMNH collection. Since none of the specimens were labeled type or had a USNM number, and two have the data described for the type, a lectotype should be designated. Therefore, the first syntype in the NMNH, being in the best condition, has been selected, labeled, and is designated as the lectotype.

224. *Melittia superba* Barnes and Lindsey, 1922:

122 (preocc., see *M. lindseyi* B. and B.)

"Described from six specimens taken in Seward Co., Kansas. Holotype ♂ . . . in coll. Barnes."

HOLOTYPE: Male, in the NMNH: "*Melittia superba* B. & L., Holotype, ♂"; "Seward Co., Kansas."

225. *Bembecia superba* Hy. Edwards, 1881:181

"1 ♀. Washington Terr. (Morrison)."

"Type. Coll. E. L. Graef."

HOLOTYPE: Female, in the NMNH: "*Bembecia superba* Hy. Ed., Type"; "TYPE"; "Col., E. L. Graef"; "Was. T."

226. *Aegeria syringae* Harris, 1839:331

"Expands one inch and two lines. Larva lives in the trunks of *Syringa vulgaris*, the common lilac."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

227. *Sphinx tabaniformis* Rottenburg, 1775:110

TYPES: Lost (Naumann, 1971).

228. *Sesia tacoma* Beutenmuller, 1898:240

"Habitat: 1 ♂, Big Horn Mts., Wyoming, July 11, 1896 (R. P. Currie), Type, U.S. National Museum."

HOLOTYPE: Male, in the NMNH: "*Sesia tacoma* Beuten., ♂, Type"; "U.S.N.M. Type No. 4358"; "RPCurrie, Collector"; "Big Hn. Mts., Wyo., Jul. 11, 96"; "*tacoma* Beut., ♂ genitalia on slide, AB, Nov. 8, 1939."

229. *Albuna tanaceti* Hy. Edwards, 1881:188

"Several examples ♂. ♀. Colorado, (H. K. Morrison.) Mt. Hood, Oregon, (Morrison.) Calif., Sier. Nev., Cal., Vancouver Isld. (H. E.)"

"Colls. Neumoegen, Graef, Tepper, Hy. Edwards."

SYNTYPES EXAMINED: 4 (all in AMNH): (1) "*Albuna tanaceti* Hy. Edw., Type"; "Colorado"; "No. 15850, Collection Hy. Edw." (female). (2) "*Albuna tanaceti* Hy. Edw., Type"; "5042, Sierra Nev., Cal.," "No. 15851, Collection Hy. Edw." (female). (3) "*Albuna tanaceti* Hy. Edw., Type"; "Vancouver Island"; "No. 15843, Collection Hy. Edw." (female). (4) "*Albuna tanaceti* Hy. Edw., Type"; "Vancouver Island"; "No. 15844, Collection Hy. Edw." (female).

DISCUSSION: Only four females and no males could be found which could be associated with the type series as described. The second female syn-

type listed above from the AMNH has been selected, labeled, and is designated as the lectotype, because it has an original Hy. Edwards number on the label.

230. *Aegeria tecta* Hy. Edwards, 1882a:56

"2 ♂. Prescott, Arizona. J. Doll."

"Types, Coll. B. Neumoegen."

SYNTYPES EXAMINED: 1 (in NMNH): "*Aegeria tecta* Hy. Edw., Type"; "Typicum specimen"; "Prescott, Arizona"; "*tecta* H. Ed., ♂ genitalia on slide, AB, May 22, 1939" (male).

DISCUSSION: Only one of the male syntypes could be found. The above male syntype in the NMNH has been selected, labeled, and is designated as the lectotype.

231. *Pyrrhotaenia tepperi* Hy. Edwards, 1881:203

"1 ♂. Georgia, (Morrison.)"

"Type. Coll. F. Tepper. to whom I regardfully dedicate this exquisite species."

HOLOTYPE: Female, in MSU: "*Pyrrhotaenia tepperi* Hy. Edw., Type"; "Georgia."

DISCUSSION: Note that the holotype is a female, not a male as indicated by Edwards.

232. *Pyrrhotaenia texana* Hy. Edwards, 1881: 204

"2 ♀. Texas. (J. Boll.)"

"Type. Coll. B. Neumoegen."

SYNTYPES EXAMINED: 2 (both in NMNH): (1) "*Pyrrhotaenia texana* Hy. Edw., Type"; "TYPE"; "Typicum specimen"; "Tex." (female). (2) "TYPE"; "Typicum specimen"; "B. N."; "Tex." (female).

DISCUSSION: The second syntype is badly worn and lacks the left pair of wings. The first listed female syntype in the NMNH with the Hy. Edwards type label has been selected, labeled, and is designated as the lectotype.

233. *Trochilium tibiale* Harris, 1839:309

"Found in New-Hampshire on the *Populus canadicans*, and presented to me by Mr. Leonard."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

234. *Aegeria tibialis* var. *anonyma* Strand, 1925:124

"♀."

HOLOTYPE: Unknown.

235. *Aegeria tibialis* var. *dyari* Cockerell, 1908:330

"♀."

"Hab.—Las Vegas, New Mexico, July 3, 1900 (Cockerell)."

". . . my type is in the U. S. Nat. Museum."

HOLOTYPE: Female, in the NMNH: "*Aegeria tibialis dyari* Ckll."; "U.S.N.M. Type"; "Las Vegas, N.M., July 3, Ckll."

236. *Aegeria tibialis* var. *melanoformis* Engelhardt, 1946:178

"Type.—U.S.N.M. No. 56852. From Adirondack Mountains."

"Remarks.—The male and female types and allotype were collected in copulation by Howard Natman in Keene Valley, Adirondacks, N.Y., July 29, 1911."

HOLOTYPE: Male in NMNH: "*melanoformis* Engelh., USNM Type No. 56852"; "fig."; "used for illustration"; "*Aegeria tibialis* Harris ♂, det. G.P.E."; "G. P. Engelhardt Coll."; "Keene Valley, 29 July 1911"; "471 2 L.H."

237. *Sphinx tipuliformis* Clerck, 1759, pl. 9: figs. 1, 2

(Description consists of two drawings only. Linnaeus in 1761 redescribed this species stating, "Habitat in Lucis & Hortis.")

TYPES: Unknown.

238. *Carmenta torrancia* Engelhardt, 1946:56

"Type.—U.S.N.M. No. 56831. Female. Collected in Torrance County, N. Mex."

"Remarks.—Only the type and three female paratypes in the United States National Museum . . ."

HOLOTYPE: Female, in the NMNH: "*Chamaesphexia torrancia* Engelh. ♀"; "U.S.N.M. Type No. 56831, *torrancia* Engel."; "Fig."; "R. H. Painter, Collector"; "Elevation 6000'"; "Torrance Co., N. Mex., 28.VI.1929"; "*torrancia* Eng., ♀ genitalia on slide, AB, Mar. 2, 1943."

239. *Albuna torva* Hy. Edwards, 1881:189

"3 ♀. Glen. Mt. Washington, N. H. Vancouver Isld. (H.E.) Colorado, (Morrison.)"

"Types. Coll. Bost. Soc. Natl. Hist. Hy. Edwards."

SYNTYPES EXAMINED: 1 (in the AMNH): "*Albuna torva* Hy. Edw., Type"; "Vancouver Island"; "No. 15858, Collection Hy. Edw." (female).

DISCUSSION: The other two females could not be located; therefore, the above female syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

240. *Aegeria tricincta* Harris, 1839:310

"The sexes were captured together upon the common tansy."

TYPES: Apparently lost or destroyed.

DISCUSSION: Refer to the pertinent statement in the "Introduction."

241. *Paranthrene tricincta* form *oslari* Engelhardt, 1946:140

"Type.—U.S.N.M. No. 26844. Described from female from Bear Creek, Morrison County, Colo. (Oslar) . . ."

HOLOTYPE: Male, in the NMNH: "*Paranthrene tricinctus oslari* Engelh., ♂"; "USNM Type No. 56844, *oslari* Engelh."; "Oslar, Bear Creek, Morrison, Col."; "Coll. Engelhardt, G. P."; "for illustration"; "*oslari* Engelh., ♂ genitalia on slide, AB Jan. 12, 1937."

DISCUSSION: The specimen from Bear Creek, Colorado, is a male, which was indicated on the label but erroneously referred to as a female in the description. Also, the correct number is 56844 as on the specimen label.

242. *Sannina uroceriformis* Walker, 1856:64

"a-c. United States. Presented by E. Double-day Esq." (He described both male and female, with "?" after female.)

SYNTYPES EXAMINED: 1 (in BMNH): "*Sannina uroceriformis*, Type, ♂"; "369"; "46.110, U.S."; "♀ of *exitiosa* Harris"; "Type"; "F3/14" (female).

DISCUSSION: Three specimens are indicated in the original description, but only one could be located. Walker questioned himself as to whether or not he was describing the female of the species. It appears as though Walker was in reality describing the female of *uroceriformis* under the male heading. The female description is of *exitiosa* Say and not *uroceriformis*. To avoid possible future confusion, the female syntype in the BMNH has been selected, labeled, and is designated as the lectotype.

243. *Saunina uroceripennis* Boisduval, 1874:465, new name pro *S. uroceriformis* Walker, 1856.

TYPE: Ipso facto type of *uroceriformis* Walker.

244. *Sesia utahensis* Beutenmuller, 1909:83

"Habitat.—St. George, Washington County, Utah, June."

"Described from a single female collected by

Mr. Engelhardt on an expedition to Utah for the Brooklyn Institute of Arts and Sciences."

HOLOTYPE: Female, in the NMNH: "*Sesia utahensis* Beut., Type"; "TYPE"; "St. George, Wshgtn. Co., Utah, VI"; "G. P. Engelhardt Coll."

245. *Albuna vancouverensis* Hy. Edwards, 1881:188
"7 examples. ♂. ♀. Vancouver Isld. (H. E.) Colorado, (Morrison.)"

"Type. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 7 (all in the AMNH): (1) "*Albuna vancouverensis* Hy. Edw., Type"; "Vancouver Island"; "No. 15838, Collection Hy. Edw." (male). (2) "*Albuna vancouverensis* Hy. Edw., Type"; "Vancouver Island"; "No. 15839, Collection Hy. Edw." (male). (3) "*Albuna vancouverensis* Hy. Edw., ♀, Type"; "Colorado"; "No. 15854, Collection Hy. Edw." (female). (4) "*Albuna vancouverensis* Hy. Edw., ♀, Type"; "Colorado"; "No. 15859, Collection Hy. Edw." (female). (5) "*Albuna vancouverensis* Hy. Edw., ♂, Type"; "Colorado"; "No. 15861, Collection Hy. Edw." (male). (6) "*Albuna vancouverensis* Hy. Edw., ♂, Type"; "Colorado"; "No. 15837, Collection Hy. Edw." (male). (7) "*Albuna vancouverensis* Hy. Edw., ♂, Type"; "Colorado"; "No. 15836, Collection Hy. Edw." (male).

DISCUSSION: Since Vancouver Island was listed first as a locality in the original description and the second listed specimen is in good condition, this male syntype in the AMNH has been selected, labeled, and is designated as the lectotype.

246. *Aegeria verecunda* Hy. Edwards, 1881:190

"1 ♂. 2 ♀. Colorado. (Morrison.)"

"Type. Coll. Hy. Edwards. F. Tepper."

SYNTYPES EXAMINED: 2 (1 in AMNH, 1 in MSU): (1) "*Aegeria verecunda* Hy. Ed., Type"; "Colorado"; "No. 15906, Collection, Hy. Edw." (female in AMNH). (2) "*Aegeria verecunda* Hy. Ed., Type"; "Colo."; "F. T." (female in MSU).

DISCUSSION: Engelhardt states, "Type.—Female. In the American Museum of Natural History. Remarks.—Hy. Edwards's description of *verecunda*, based on three examples, one male and two females from Colorado (Morrison), does not discriminate between the sexes, which are dissimilar. The male type, if existing, cannot be located. Two females, labeled type, are at the American Museum of Natural History." It is our opinion that the two

females listed above as syntypes are from the type series, and the male, if it exists, could not be located. The female syntype in MSU has been selected, labeled, and is designated as the lectotype, because it is in better condition.

247. *Sannina verrugo* Druce, 1884:34

"Hab. Mexico, Esperanza (Hoegel)."

"Only a single example of this fine insect was sent. It is allied to *S. uroceriformis*, Walk., from North America."

HOLOTYPE: Female, in the BMNH: "B. C. A. Lep. Het., *Sannina verugo* Druce"; "Esperanza, Mexico, Hoegel"; "Godman-Salvin, Coll. 97.-52"; "Type, Sp. figured"; "Type."

248. *Alcathoe verrugo corvinus* Engelhardt, 1946: 107

"Type.—U.S.N.M. No. 56841. From Arroyo Seco, Los Angeles, Calif."

HOLOTYPE: Male, in the NMNH: "*Alcathoe verrugo* color var. *corvinus* Engelh., Type, ♂"; "Arroyo Seco, S. Pasadena, Calif., VII.17.1931"; "Coll. G. P. Engelhardt."

249. *Trochilium vespipenne* Herrich-Schaeffer, 1854:57, Fig 217

"*vespipenne* H-S. f. 217.—China." (Description consists of a figure.)

TYPE: Unknown.

250. *Synanthedon viburni* Engelhardt, 1925a:65

"Habitat. Woodhaven South Long Island, N.Y. IV. 19.1919, V.10.1921."

"Types. Male and female, in the author's collection at the Brooklyn Museum, Co-type male U.S.N.M., Co-type female William Barnes Collection."

SYNTYPES EXAMINED: 5 (all in NMNH): (1) "*Synanthedon viburni* G.P.E., ♂, Type"; "Coll. G. P. Engelhardt"; "Woodhaven, L. I., V.28.20." (2) "*Synanthedon viburni* G.P.E., ♀, Allotype"; "Coll., G. P. Engelhardt"; "Flatbush, L. I., V.14.20" (abdomen, ring forewing and both antennae missing). (3) "*Synanthedon viburni* G.P.E., ♂, Paratype"; "Coll., G. P. Engelhardt"; "Woodhaven, L.I., VI.7.20" (abdomen and hindwings missing). (4) "*Synanthedon viburni* Engelhardt, ♂, Paratype"; "U.S.N.M. Paratype No. 24-869"; "Coll., G. P. Engelhardt"; "Woodhaven, L. I., V.28.20" (abdomen and antennae missing). (5) "U.S.N.M. Paratype No. 24-869"; "under bark, *Viburnum*"; "Coll.,

G. P. Engelhardt"; "Flatbush, L.I., V.24.20" (abdomen, antennae and right pair of wings missing).

DISCUSSION: Engelhardt (1946:96) states, "Type.—Male, from Woodhaven, N.Y. In the United States National Museum." The date on the specimen labeled "type" does not correspond to the dates listed in the original description, nor do any specimens in the Engelhardt Collection carry the latter dates. We are assuming that an error occurred in transposing the dates. In the 1946 revision, Engelhardt uses type, allotype, and paratype for a type series, dropping the use of male and female type and cotype. The above syntypes must have been labeled sometime after the 1925 publication. To avoid possible confusion in the future, the syntype labeled "Type" in the NMNH has been selected, labeled, and is designated as the lectotype.

251. *Albuna vitrina* Neumoegen, 1891:109

"Hab.—Ft. Calgary, N. W. Territory. Type ♂, coll. B. Neumoegen."

HOLOTYPE: Male, in the NMNH; "*Albuna vitrina* Neumoegen, Type"; "TYPE"; "Ft. Calgary, N. W. Brit. Columbia."

DISCUSSION: Note the error in recording the type-locality in Neumoegen's original description.

252. *Aegeria washingtonia* Hy. Edwards, 1881:197

"1 ♂. Washington Terr. (Morrison.)"

"Type. Coll. Hy. Edwards."

HOLOTYPE: Male, in the AMNH: "*Aegeria washingtonia* Hy. Ed., Type"; "Washington, Terr."; "No. 15910, Collection Hy. Edw."

253. *Zenodoxus wissadulae* Engelhardt, 1946:195

"Type.—U.S.N.M. No. 56854. From Brownsville, Tex."

"Remarks.—Described from male type, female allotype, 6 male and 5 female paratypes, reared by the late Emerson Liscum Diven . . ."

HOLOTYPE: Male, in the NMNH: "*Zenodoxus wissadulae* Engelh., ♂, Type" "*Wissadula lozani*"; "Brownsville, Tex."; "Diven, Colr."; "reared, May 7/19"; "Diven, 41, F.H.B., rearing."

254. *Pyrrhotaenia wittfeldii* Hy. Edwards, 1883:156

"2. ♂ Indian River, Florida. Dr. Wittfield."

"Type. Coll. Hy. Edwards."

SYNTYPES EXAMINED: 2 (both in AMNH): (1) "*Pyrrhotaenia wittfeldii* Hy. Edw., Type"; "Indian River, Florida"; "No. 15985, Collection Hy. Edw."

(female). (2) "*Pyrrhotaenia wittfeldii* Hy. Edw."; "Indian River, Florida"; "No. 15986, Collection Hy. Edw." (female).

DISCUSSION: It is assumed here that Edwards erred in the determination of the sex of the types. The first female syntype in the AMNH labeled type has been selected, labeled, and is presently designated as the lectotype.

255. *Sesia xiphiaeformis* Boisduval, 1874:409
"Nous avons reçu cette remarquable Sesie de feu

John Leconte, sans aucune indication sur la localité qu'elle habite aux États-Unis."

HOLOTYPE: Female, in the NMNH: "Type *xiphiaeformis* Bdv., a/c Hofer"; "*Sesia xiphiaeformis* Bdv., Amer. bor., Sp. G. Sphing. p. 409"; "Oberthur Collection"; "j'ai envoyé en Jly 1882 la peinture à M. Edwards, Ch. Ob."; "Typicum Specimen"; "Ex Musaeo, Dris Boisduval"; "*xiphiaeformis* Bdv., Am. B."; "Barnes Collection"; "*Synanthedon exitiosa* Say, ♀, det. G.P.E."

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