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## CHANGES IN THE SYNONYMY OF LEPIDOPTERA ARISING FROM EXAMINATION OF SOME TYPES IN THE BROOKLYN MUSEUM.

(Lepid., Phalaenidae & Pyralidae.)

BY WM. BARNES AND F. H. BENJAMIN, Decatur, Illinois.

Through the kindness of Messrs. George P. Engelhardt and Jacob Doll, we were enabled to examine a number of unique types in the Collection of the Brooklyn Museum of Arts and Sciences, and present the following report thereon:

### *Agrotis tenuicula* Morr.

- 1874, Morrison, Proc. Bost. Soc. N. H., XVII, 163, *Agrotis*.  
1890, Smith, Bull. U. S. N. M., XXXVIII, 208 (?*perconflua*, ignot.), *Agrotis*.  
1893, Smith, Bull. U. S. N. M., XLIV, 67 (?*conflua* form, ignot.), *tenuicola* (!), *Agrotis*.  
1903, Dyar, Bull. U. S. N. M., LII, 133, No. 1461, *tenuicola* (!), *Agrotis*.  
1903, Hampson, Cat. Lep. Phal. B. M., IV, 402, ignot., *tenuicola* (!), *Agrotis*.  
1917, Barnes & McDunnough, Check List, p. 45, No. 1431, *tenuicola* (!), *Agrotis*.

### *treatii* Grt.

- 1875, Grote, Can. Ent., VII, 186, *Agrotis*.  
1890, Smith, Bull. U. S. N. M., XXXVIII, 81, *Noctua*.  
1893, Smith, Bull. U. S. N. M., XLIV, 71, *Noctua*.  
1898, Smith, Jour. N. Y. Ent. Soc., VI, 103, *Noctua*.  
1903, Dyar, Bull. U. S. N. M., LII, 134, No. 1479, *Noctua*.  
1903, Hampson, Cat. Lep. Phal. B. M., IV, 398, pl. LXX, f. 10 (type), *Agrotis* (*Diarsia*).



The name *Agrotis tenuicula* Morr. has heretofore presented a very difficult problem.

The original description is short, poor, incomplete, and compares with a species that was probably misidentified by Morrison.<sup>1</sup>

Smith, 1890, states, "The chances are that this is a form of *perconflua* Grt., but I am not prepared to make the reference definitely. I have no idea who could have furnished the type of the species and have never seen any specimens so named."

Smith, 1893, states, "It is more than likely that this will turn out a form of *Noctua conflua* but I have nothing answering nearly enough to it to make sure. I am utterly in the dark as to the location of the type."

Dyar, 1903, marks the name \* as being unrepresented in the National Museum.

Hampson, 1903, states it is unknown to him. His description is apparently partly based upon the original description and partly upon European *conflua*.

The name has been spelled *tenuicola* since 1893, only being *tenuicula* in the original description and by Smith in 1890.

The Graef Collection contains an old and faded specimen, its pin bearing the label, "*Agrotis tenuicula* Morr. Coll. Edw. L. Graef." The label is very old, yellowed, and the ink is faded with age.

We call attention to the general misspelling of the name by all authors and the fact that the name on the Graef Collection specimen is spelled correctly.

Mr. Doll informed us that Morrison determined a quantity of material now in the Museum. The older Brooklyn Entomologists, especially in 1874, were more or less in communication with Morrison as other material in the paper containing the original description of *tenuicula* was furnished by Graef.

The Graef Collection specimen does not violate the original description except that the hind wings are not "uniform gray color" but the fuscous of the secondaries fades some with age, and often the secondaries are fuscous in *triatii*.

Apparently aside from the Graef specimen no other specimens have turned up bearing this name for nearly fifty years.

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<sup>1</sup> *Conflua* Tr. but Morrison presumably had in mind *conflua* Auct. nec Tr. to which Grote afterward applied the name *perconflua*, and which is now listed as a synonym of *jucunda*.



While we do not consider the Graef specimen the original type we feel that because of the circumstances surrounding the name, this specimen should serve to indicate what the name represents, as it was almost certainly named by Morrison, all other authors disclaiming any knowledge of what the name represented.

At any rate, we feel that we have good circumstantial evidence to show what the name represents, and propose to use the name in place of *treatii* Grt.

It may be well to call attention to the fact that prior to some date between 1893 and 1898 *treatii* was only known from a single specimen besides the type (see Smith, 1890, 1893, 1898).

*Epipsilia elevata* Sm.

1891, Smith, Trans. Am. Ent. Soc., XVIII, 104, pl. II, f. 2, valve ♂ genit., *Pachnobia*.

1893, Smith, Bull. U. S. N. M., XLIV, 64, *Pachnobia*.

1896, Ottolengui, Ent. News, VII, 35, *Pachnobia*.

1903, Dyar, Bull. U. S. N. M., LII, 132, No. 1436, *Pachnobia*.

1903, Hampson, Cat. Lep. Phal. B. M., IV, 488, ignot., *Episilia* (!) (...).

*terrifica* Sm.

1893, Smith, Ent. News, IV, 98, pl. VI, f. 2, *Setagrotis*.

1894, Smith, Trans. Am. Ent. Soc., XXI, f. 42, pl. II, f. 2, *Setagrotis*.

1903, Dyar, Bull. U. S. N. M., LII, 132, No. 1447, *Setagrotis*.

1903, Hampson, Cat. Lep. Phal. B. M., IV, 487, pl. LXXIII, f. 6, *Episilia* (!) (...).

*E. elevata* and *terrifica* were described from Colorado (Bruce); the former from a single ♂ (Neumoegen Collection) and the latter from 2 ♂. We have a specimen compared with the type of *terrifica* and the type of *elevata* before us. Only a single species is represented.

We might mention that no specimens were under the name *elevata* in the National Museum *vide* Dyar (1903) and that the species was unknown to Hampson (1903). The difference given by Hampson, black *vs.* yellow below base of cell, is incorrect, the species having a claviform filled with luteous, outlined in black and this is continued mesad of the t. a. line. Why Smith put the names into different genera we do not know. All tibiae are spined, the frons smooth and the vestiture is composed of hair, placing



the species in *Epipsilia* (usually spelled *Episilia*). We have single specimens from "S. Utah" (Poling) and Eureka, Utah (Spalding) as well as from "Colo. (Bruce)." The species is rare in collections, probably being an early spring flier. Our only dated specimens are the Utah ones, "Apr. 1-15" and "IV-24-10," respectively.

*Polia gnata* Grt.

1882, Grote, Can. Ent., XIV, 170, *Mamestra*.

1891, Smith, Proc. U. S. N. M., XIV, 202, 212, 276 (partim.), pl. VIII, f. 13, valve ♂ genit. (type), *Mamestra*.

1893, Smith, Bull. U. S. N. M., XLIV, 116 (partim.), *Mamestra*.

1896, Ottolengui, Ent. News, VII, 37, *Mamestra*.

1903, Dyar, Bull. U. S. N. M., LII, 151, No. 1784 (partim.), *Mamestra*.

1905, Hampson, Cat. Lep. Phal. B. M., V, 86, pl. LXXXVI, f. 8 (type), *Polia*.

Described from Arizona, 1 ♂, Neumoegen Collection. Smith evidently removed a valve from the type as in 1891 he figures the ♂ genitalia stating that aside from the type he knew the species only from a single New Mexican female in his own collection. This valve is missing from the type. The species has been generally represented in collections by New Mexican specimens, in accordance with Smith's 1891 determination. We possess a single New Mexican female labeled "*gnata* Grt. a/c N. M.," but this apparently is the female of a very similar male which has been compared with type *rubrifusa* Hamp. by McDonnough, and not the female of *gnata*. True *gnata* appears rare in collections. Hampson's figure (1905) is not good although taken from type. However, it is essentially correct in the more important details, although incorrect in general habitus. Besides the type we have seen only a single male from Tucson, Arizona.

The species is a member of the *selama-brachiolum-rubrifusa-umbrosa* group. Of the first two names we do not possess specimens, but a study of Strecker's type *selama* shows it to be a good match for a colored figure of type *brachiola*. While we think Strecker's name will be a synonym, lack of material prohibits a definite sinking of the name. These types came from Texas. New Mexican *rubrifusa* is certainly distinct from any species



known to us. The types of *umbrosa* described from Arizona and Colorado ought to be reexamined to determine if only a single species is represented. Certainly a specimen (♀) matched with the Colorado type seems distinct.

*Oncocnemis chorda* Grt.

1880, Grote, Can. Ent., XII, 256, *Homohadena*.

1890, Smith, Proc. U. S. N. M., XIII, 398, 401, *Homohadena*.

1893, Smith, Bull. U. S. N. M., XLIV, 157, *Homohadena*.

1903, Dyar, Bull. U. S. N. M., LII, 125, No. 1320, *Homohadena*.

1903, Smith, Jour. N. Y. Ent. Soc., XI, 11, *Oncocnemis*.

1906, Hampson, Cat. Lep. Phal. B. M., VI, 169, pl. C, f. 7 (type), *Oncocnemis*.

*refecta* Sm.

1894, Smith, Trans. Am. Ent. Soc., XXI, 65, pl. VI, f. 11, *Oncocnemis*.

1903, Dyar, Bull. U. S. N. M., LII, 127, No. 1368, *Oncocnemis*.

1903, Smith, Jour. N. Y. Ent. Soc., XI, 11, *chorda*, *Oncocnemis*.

1906, Hampson, Cat. Lep. Phal. B. M., VI, 169, *chorda*, *Oncocnemis*.

*Oncocnemis chorda extremis* Sm.

1890, Smith, Ent. Amer., VI, 30, *Oncocnemis*.

1893, Smith, Bull. U. S. N. M., XLIV, 160, *Oncocnemis*.

1903, Dyar, Bull. U. S. N. M., LII, 126, No. 1340, *Oncocnemis*.

1906, Hampson, Cat. Lep. Phal. B. M., VI, 168, ignot., *Oncocnemis*.

*O. chorda* and *O. reflecta* were described from Colorado. Hampson (1906) figures the type of the former; and Smith (1894) figures the type of the latter. Normal specimens often show less black in the terminal and subterminal areas of the primaries.

The single type (♀) of *extremis* is a heavily black marked form from "N. W. British Columbia" and in view of the extreme variability of the species we are inclined to consider it conspecific with *chorda*. In fact Hampson's figure of type *chorda* is



much closer to type *extremis* than it is to most western specimens of *chorda*. We only know true *extremis* from the type in the Neumoegen Collection. Lack of topotypical material compels us to save the name as a subspecies rather than to drop it to mere form status.

### Fotella Grt.

Type *Fotella notalis* Grt.

1882, Grote, Can. Ent., XIV, 181, *notalis* sole species and therefore type.

1909, Hampson, Cat. Lep. Phal. B. M., VIII, 232, type designated *notalis*.

In a number of genera Hampson has overlooked a slight spreading prothoracic crest, only to be seen in fresh material. These are *Escaria* Grt., *Aleptina* Dyar, *Prorachia* Hamp., *Hadenella* Grt., and *Fotella* Grt. Nevertheless we find no conflict with other named genera possessing prothoracic tufts.

*Fotella* was characterized by Hampson from a single female (the type) of *cylindrica*. He did not know *notalis* Grt. the genotype of *Fotella*. Generically *notalis* differs from *cylindrica* by possessing on the rounded front a circular corneous ring which possesses a central small rounded navel-like tubercle. Grote's original description of *Fotella* calls attention to this feature.

### *Fotella notalis* Grt.

1882, Grote, Can. Ent., XIV, 181, *Fotella*.

1893, Smith, Bull. U. S. N. M., XLIV, 195, *Fotella*.

1903, Dyar, Bull. U. S. N. M., LII, 109, No. 1099, *Fotella*.

1909, Hampson, Cat. Lep. Phal. B. M., VIII, 233, pl. CXXVIII, f. 13 (type), ignot., *Fotella*.

1912, Barnes & McDonnough, Can. Ent., XLIV, 54, 217, *Fotella*.

Hampson's figure of type is too large, as the actual measurement is 29 mm. The x in place of the reniform on the figure is due partly to a constricted reniform, but mainly to the imagination of the artist. The orbicular is represented by a few whitish scales.

Structurally the type agrees with the types of *olivia* and *cervoides* and with a specimen compared with the type of *fragosa*.



We fail to match the type which in some respects is intermediate between *olivia* and *fragosa*,<sup>2</sup> but differs by being larger and in possessing a few white scales tending to form a streak on the median vein. It may be an aberration or variety of either, or a distinct species. In fact we would not be greatly surprised if long series of specimens showed all three names conspecific, although probably valid as races or forms.

**Fotella olivioides** sp. nov.

A fourth form or species occurs which differs from typical *olivia* by being much darker, more heavily powdered with black, less contrastingly marked.

*Type locality*: Palm Springs, Riverside Co., Calif.

*Types*: Holotype ♀ and 1 ♀ Paratype, 16-23 March.

**Afotella** gen. nov.

Type *Hadena cylindrica* Grt.

Proboscis fully developed; palpi upturned. the second joint slender, reaching to middle of frons and fringed with scales in front; the third short; frons with a roughened rounded prominence with a corneous plate below it; eyes large, rounded; antennae ciliated in both sexes, the ♂ with the cilia almost fasciculate; head and thorax clothed with scales only; a ridge of scales between and over the bases of the antennae; prothorax with a small spreading crest; metathorax with a large spreading divided crest; tibiae slightly fringed with hair; abdomen with a dorsal crest at base only; build slender; wings ample. Fore wing with the apex rounded, the termen evenly curved; veins 3, 5 from near angle of cell; 6 from upper angle, 9 from 10 anastomosing with 8 to form the areole, 11 from cell. Hind wing with veins 3, 4 from angle of cell; 5 obsolescent from somewhat below middle of discocellulars; 6, 7 from upper angle; 8 anastomosing with cell near base only.

*Namangana epipaschia* Grt.

1883, Grote, Trans. Kans. Acad. Sci., VIII, 49, *Homohadena*.

1890, Smith, Proc. U. S. N. M., XIII, 398, 401, *Homohadena*.

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<sup>2</sup> See 1912, B. & McD., Contr. N. H. Lep. N. A., I, (4), 17, pl. VIII, f. 12, and II, (1), 12, pl. V, f. 12.



- 1893, Smith, Bull. U. S. N. M., XLIV, 157, *Homohadena*.  
1903, Dyar, Bull. U. S. N. M., LII, 125, No. 1321, *Homohadena*.  
1906, Hampson, Cat. Lep. Phal. B. M., VI, 191, ignot., *Homohadena*.  
1917, Barnes & McDunnough, Check List, p. 69, No. 2625, *Namangana*.

*Namangana epipaschia praeacuta* Sm.

- 1894, Smith, Trans. Am. Ent. Soc., XXI, 61, pl. III, f. 6, *Platyperigea*.  
1903, Dyar, Bull. U. S. N. M., LII, 109, No. 1097, *Platyperigea*.  
1909, Hampson, Cat. Lep. Phal. B. M., VIII, 548, text fig. 154, *Namangana* (....).  
1917, Barnes & McDunnough, Check List, p. 69, No. 2626, *Namangana*.

.. There is a type (♂) of *N. epipaschia* in the Neumoegen Collection, labeled "*Homohadena epipaschia* Grote type" in Grote's handwriting, and "Near Hot Springs, Las Vegas, N. M. 7,000 ft. July, '82, F. H. Snow." Apparently the description is based upon a single specimen.

Until 1917 the name was placed as a *Homohadena*, unknown except for the type, but Barnes & McDunnough recognizing its affinity to *praeacuta*, placed it in *Namangana*.

We have carefully studied the type which appears structurally the same as that of *praeacuta*, which is variable and which is in the Barnes Collection from Arizona, Colorado, California, Idaho, Washington, and British Columbia. The course of the transverse lines is the same and the dorsum of the thorax possesses the same rufous tinted scales. The main distinction between the two forms is that the type of *epipaschia* has a diffused black submedian shade connecting the t. a. and t. p. lines; and a black terminal area; while the subterminal area is slightly paler, the ordinary spots more diffuse and the cell with more black filling than usual for *praeacuta*.

These two form a distinct group not very closely allied to any other species known to us, and may ultimately need a new genus to accommodate them.

Although the types are certainly not similar in superficial appearance, the structures and transverse maculation being the same



in both, we think only a single species is represented. It is probable that the type of *epipaschia* is an aberration and *praeacuta* is the normal form. Lack of topotypical material of the former compels us to place them as subspecies of one another.

*Zale termina* Grt.

- 1883, Grote, Can. Ent., XV, 129, *Pheocyma* (!).
- 1893, Smith, Bull. U. S. N. M., XLIV, 368, *Phaeocyma*.
- 1897, Ottolengui, Ent. News, VIII, 244, *Pheocyma* (!).
- 1903, Dyar, Bull. U. S. N. M., LII, 238, No. 2981, *Pheocyma* (!).
- 1913, Hampson, Cat. Lep. Phal. B. M., XIII, 335, "species omitted," "? *Noctuinae*," *Pheocyma* (!).
- 1917, Barnes & McDunnough, Check List, p. 86, No. 3377, *Coxina*.

*yavapai* Sm.

- 1908, Smith, Proc. U. S. N. M., XXXV, 219, 221, 267, 273, 274, 275, pl. XXXIII, f. 6 ♂ genit.; pl. XXXV, f. 11 ♀ genit.; *Phaeocyma* (*Zale*).
- 1913, Hampson, Cat. Lep. Phal. B. M., XIII, 245, pl. CCXXXI, ff. 3, *Zale* (*Zale*).

Described from "two or three" females from Arizona. Smith (1893) states the type is in the Neumoegen Collection, and Ottolengui (1897) lists a single female type in that collection. Dyar (1903) lists the species as not in the National Museum, and it was unknown to Hampson (1913). Barnes and McDunnough (1917) did not know the species and listed it in *Coxina*, apparently for the reason that Smith omitted it from his revision of "*Phaeocyma*" and Hampson listed it as "? *Noctuinae*." The original description clearly indicates either a *Zale* or a *Coxina*.

Examination of the type female in the Neumoegen Collection shows spined mid tibiae, placing the species in the genus *Zale*, where it is a perfect match for the Barnes Collection 2 ♂ 2 ♀ "cotypes," and series, of *Zale yavapai* Sm.

In view of the fact that the species has been so generally unknown and the indefiniteness of the number of types in the original description we hereby select the female type in the Neumoegen Collection as the lectotype of the name.



## CUTINA Wlk.

Type *Cutina albopunctella* Wlk.1866, Walker, Cat. Lep. Het. B. M., XXXV, 1734, *albopunctella* sole species and therefore type.1913, Hampson, Cat. Lep. Phal. B. M., XIII, 157, type designated *albopunctella*.*Cutina distincta* Grt.1882, Grote, Papilio, II, 184, *Eustrotia*.1893, Smith, Bull. U. S. N. M., XLIV, 311, *Erastria*.1903, Dyar, Bull. U. S. N. M., LII, 209, No. 2609, *Eustrotia*.1910, Hampson, Cat. Lep. Phal. B. M., X, 805, "species omitted," *Eustrotia*.*inquieticolor* Dyar.1922, Dyar, Ins. Insc. Menst., X, 169, *Taseopteryx*.1925, Barnes & Benjamin, Proc. Ent. Soc. Wash., in litt., *Cutina*.

*C. distincta* Grote has heretofore been known only by the single type in the Neumoegen Collection. No locality is given in the original description. We think likely that Smith's listing (1893) of this species from Arizona is pure guess work on his part. In this he has been followed by subsequent authors. Dr. Dyar described *inquieticolor* as an *Erastriid* from two types, females, Stemper, Hillsboro County, Florida, Fred Marloff.

One type was retained in the U. S. National Museum and the other returned to Mr. Marloff who donated it to the Barnes Collection.

Types of both names are before the authors and agree.

We have discussed the proper placement of *inquieticolor* in a paper to appear in the Proc. Ent. Soc. Wash. Spines on the mid tibiae place the insect in the Catocalinae where it fits well into the genus *Cutina*.

Besides the Marloff type of *inquieticolor* the species is represented in the Barnes Collection by single specimens from Hastings, Florida, and Greenville, Mississippi (Geo. Dorner). It will probably be found to be a generally distributed inhabitant of the Gulf Strip division of the Lower Austral Faunal Zone.

*Loxostega plana* Grt.1882, Grote, Papilio, II, 184, *Prothymia*.1893, Smith, Bull. U. S. N. M., XLIV, 307, *Prothymia*.



1903, Dyar, Bull. U. S. N. M., LII, 210, No. 2625, *Prothymia*.

1916, Barnes & McDunnough, Contr. N. H. Lep. N. A., III, (1), 18, *Phytometra* (*Prothymia*).

*roseiterminalis* B. & McD.

1914, Barnes & McDunnough, Contr. N. H. Lep. N. A., II, (6), 233, pl. I, f. 8, *Loxostege*.

The single type of *plana* is a female in the Neumoegen Collection. It was described from Arizona.

*L. roseiterminalis* B. & McD. was described from San Benito, Texas.

The types of both names agree. Besides the types of *roseiterminalis* the Barnes Collection now possesses specimens from Douglas and Yavapai County, Arizona.

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**The Grasshopper *Melanoplus differentialis* on Staten Island, N. Y.**—On the 8th of October, 1925, four additional specimens of the grasshopper *Melanoplus differentialis* (Thomas) were discovered near Old Place, Staten Island, the only known locality for the species in the state of New York. They were on the edge of the salt meadow among some plants of *Rumex*, and one was in a drier situation on filled-in ground.

The first record for this species for New York state is in the Journal of the N. Y. Ent. Soc. for December, 1924, where some account of its extension northward along the Atlantic coast is to be found. It is a common species in many of the western states, where it is sometimes injurious.

Hundreds of freight cars stand on the sidings near to where this grasshopper has established itself, and it is quite possible that it was thus artificially transported northward by the railroad.—WM. T. DAVIS, Staten Island, N. Y.





Barnes, William and Benjamin, Foster Hendrickson. 1925. "Change in the synonymy of Lepidoptera arising from examination of some types in the Brooklyn Museum (Lepid., Phalaenidae and Pyralidae)." *Bulletin of the Brooklyn Entomological Society* 20, 189–199.

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