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NOTES ON PHALÆNIDÆ* (LEPIDOPTERA)

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The notes in this paper resulted from the identification of specimens for Mr. Graham Fairchild and for the Museum of Comparative Zoology. These specimens represented Mr. Fairchild's recent collections in Nova Scotia and part of Professor Thaxter's collections in Newfoundland in 1882.

One name has been removed from synonymy and is used for a valid species with another name transferred to it as a synonym; one name heretofore considered of specific rank has been sunk to subspecific status; two names heretofore listed as being of specific rank have been sunk as synonyms; and three new subspecies have been described.

ANOMOGYNA PERQUIRITATA Morr.

1874, Morrison, Proc. Bost. Soc. Nat. Hist., XVII, 136, *Polia*.

1880, Grote, Bull. Brklyn. Ent. Soc., III, 37, *Agrotis*.

baileyana Grt.

1879, Grote, No. Amer. Entom., I, 92, *Agrotis*.

1880, Grote, Bull. Brklyn. Ent. Soc., III, 37, *perquiritata*, *Agrotis*.

‡*speciosa* Auct. (nec Hbn.)

1890, Smith, Bull. U. S. N. M., XXXVIII, 44, (partim.), *Platagrotis*.

1893, Smith, Bull. U. S. N. M., XLIV, 58, (partim.), *Platagrotis*.

1903, Hampson, Cat. Lep. Phal. B. M., IV, 580 (partim.), *Aplectoides*.

1924, Draudt, in Seitz, Macrolepid., VI, 74 (partim.), *Aplectoides*.

1928, McDunnough, Bull. Natl. Mus., Canada, LV, 77 (partim.), *Anomogyna*.

‡*perquirita* Auct. (lapsus calami).

1890, Smith, Bull. U. S. N. M., XXXVIII, 44, *speciosa*, *Platagrotis*.

1893, Smith, Bull. U. S. N. M., XLIV, 58, *speciosa*, *Platagrotis*.
subspecies *beddeci* Hamps.

1913, Hampson, Ann. Mag. Nat. Hist., (8), XII, 589, *Aplectoides*.

1921, McDunnough, Can. Ent., LIII, 179, *Anomogyna*.

*Noctuidae of authors.

- 1924, Draudt, in Seitz, *Macrolepid.*, VI, 74 (ignot.), *Aplectoides*.
1928, McDunnough, *Bull. Natl. Mus. Canada*, LV, 60 & 77,
Anomogyna.
livalis Auct. (nec. Sm.)
1910, Smith, *Jour. N. Y. Ent. Soc.*, XVIII, 86, [Hampson MS.,
non nom.], *Platagrotis*.
subspecies *partita* McD.
1921, McDunnough, *Can. Ent.*, LIII, 179, f. 1 male genit.,
Anomogyna.
1928, McDunnough, *Bull. Natl. Mus. Canada*, LV, 60 & 77, *beddeci*
race, *Anomogyna*.

The type of *perquiritata* Morrison is in the National Museum. A somewhat lengthy bibliography is cited because of the general confusion of this species with the closely related *speciosa* Hübner.

Grote (1880) contended that he recognized two species, *perquiritata* and *speciosa*, and that his name *baileyana* is a synonym of the former. In view of this direct statement, and the fact that the Grote types have probably been destroyed, there seems nothing to do but to accept the synonymy proposed by Grote. The synonymy proposed by Smith (1890 and 1893) has been accepted, to date, by all subsequent authors, but is certainly incorrect in so far as the name *perquiritata* is concerned. Obviously Smith did not recognize the existence of two closely related species until about 1910, when he described the form of *speciosa*, which is pale with prominent markings¹, as a separate species under the name of *livalis*².

The author has seen some eighteen examples of *perquiritata* inclusive of specimens representing all described subspecies. These possess a more constricted and more irregular reniform than that of examples of *speciosa* from Europe, Labrador, and New Hampshire (in the National Museum). The orbicular tends to be smaller. Smith pointed out these characters (1910). The male genitalia have been discussed by McDunnough (1921 and 1928), and males of the two species may easily be sorted by denuding the tips of the harpes. The tip of the harpe of speci-

¹Variety *mixta* Walker according to Hampson.

²Thanks are due to Miss Augusta Meske and other members of the Entomological staff at Rutgers College for a sketch of the harpe of the type of *livalis*, and structural comparison with this type of specimens of *perquiritata* and *speciosa*.

mens of *speciosa* is lobate, while the similar part of specimens of *perquiritata* is bifurcate. Also specimens of *speciosa* usually possess an oblique shade from the costa, passing through and darkening the reniform; whereas this shade in *perquiritata* is usually obsolescent.

The type of *perquiritata* is the only example seen by the author. It possesses some dark rufous tinting on the median area of the fore wing and seems intermediate between subspecies *beddeci* Hampson, a name applicable to specimens with contrasting maculation and pale ground similar to variety *mixta* Walker of *speciosa* Hübner, and subspecies *partita* McDunnough, from the mountains of Alberta and British Columbia. The latter has the fore wing heavily and evenly powdered with fuscous, appearing quite dark, the basal dash and claviform more or less obsolescent. More specimens from the mountains of New England will be necessary to ascertain if either *beddeci* or *partita* are the same as *perquiritata*.

Some years ago a specimen from Mt. Rainier was given the author by Mr. George P. Engelhardt for the Barnes Collection. This has been held awaiting receipt of more material. Recently a second specimen was submitted by Mr. J. F. Gates Clarke. These seem to represent a separate northwestern race, described as follows:

Anomogyna perquiritata clarkei Benjamin, new subspecies

‡*arctica* Auct. (nec Zett.).

1905, Smith, Jour. N. Y. Ent. Soc., XIII, 191, *speciosa* var., *Aplectoides*.

Size and general habitus of *partita*, with the same blackish powdery appearance, but differing by the fore wing possessing paler basal, terminal, and subterminal areas, causing the median portion to appear disconcolorously blackish; in addition the subterminal sagittate black dashes are larger and more contrasting; the basal black dash is defined; and a strongly marked claviform is present.

Holotype male, Shuksan, Wash., VII-29-27 (Miesan Clarke); 1 male paratype, Mt. Rainier, Wash., 6,000 feet, VII-25-1923 (George P. Engelhardt). Cat. No. 44358, U. S. N. M.

ANOMOGYNA IMPERITA Hübner

- 1823? Hübner, Zutr. exot. Schmett. (3), p. 16, (224), ff. 447-448, *Graphiphora (Ogygia)*.
1915, Dod, Can. Ent., XLVII, 7, *Platagrotis*.
1921, McDunnough, Can. Ent., LIII, 176, *Anomogyna discitincta* Walker.
1856, Walker, Cat. Lep. Het. Br. Mus., IX, 27, *Bryophila comparata* Moeschler
1862, Moeschler, Wien, ent. Mon., VI, 131, pl. V, f. 5, *Agrotis saxigena* Morrison
1874, Morrison, Proc. Bost. Soc. Nat. Hist., XVII, 162, *Agrotis arufa* Smith
1905, Smith, Jour. N. Y. Ent. Soc., XIII, 192, *Platagrotis*.

The Hübner and Moeschler types came from Labrador; the type of *saxigena* from Mt. Washington, N. Hamp.; the Walker type from St. Martin's Falls, Hudson Bay; and the Smith type from Yellowstone Park, Wyo.

Labrador specimens are variable both in size and coloration, some being extremely runty while others are as large as the largest that are in the collection from Mt. Washington and Ontario. The color difference between *imperita* and *arufa* mentioned by Smith, and accepted by all subsequent authors as a specific character, does not hold. The Smith type is somewhat rubbed, but reddish scales are evident. Another male from Yellowstone Park, bearing the same kind of labels as the type, shows practically the same coloration as some specimens from Labrador. The only distinction which is observed between the Yellowstone Park specimens and typical *imperita* seems to be in size, the former being slightly larger than any in the long series from Labrador. Alberta and Colorado specimens practically agree with Yellowstone Park material. In this regard, Dod (1915) states that the Walker type of *discitincta* is larger than Labrador specimens in the British Museum. The genitalia of *imperita* and *arufa* show no differences, and the latter name seems unworthy of retention. Both Dod and McDunnough have considered Alberta material as typical *imperita*. Should subsequent authors desire a separate name for the slightly larger specimens, *discitincta* Walker would appear to be available and with priority over *arufa* Smith.

ANOMOGYNA HOMOGENA McDunnough

1921, McDunnough, Can. Ent., LIII, 178, f. 3 male genit., *Anomogyna*.

1924, Draudt, in Seitz, Macrolepid. World, VI, 74 (ignot.), *Aplectoides*.

1928, McDunnough, Bull. Natl. Mus. Canada, LV, 60 and 77, *Anomogyna*.

‡*sincera* Auct. (nec H.-S.)

1913, Dod, 43rd Ann. Rept. Ent. Soc. Ont. (1912), 119, *Platagrotis*.

‡*mevesi* Auct. (nec Auriv.)

1915, Dod, Can. Ent., XLVII, 7, *Platagrotis*.

Typically a dull powdery gray species somewhat resembling *A. perquiritata partita* in the ground color of the fore wings, and with smoky hind wings. The species was described from a male holotype from Banff, Alberta, (Canadian National Collection), and a pair of paratypes from Pocahontas, Alberta (Barnes Collection).

Anomogyna homogena conditoides Benjamin, new subsp.

Size and course of the markings as in the typical subspecies, but with the ground color of the fore wings always possessing a rufous tint, and variable as in *pressus* and *condita*, with which the present variety agrees in general habitus and in the brightness of the markings.

The male genitalia present no specific differences from those of typical *homogena*.

Holotype male, allotype female, 3 male and 35 female paratypes, Salmonier, Newfoundland, Aug. 5-15, 1885 (R. Thaxter).

Notes: Received for identification from the Museum of Comparative Zoology: Holotype, allotype, 2 male 10 female paratypes in U. S. N. M.; 1 male and 25 female paratypes in Museum of Comparative Zoology, Cat. No. 44359, U. S. N. M.

OLIGIA MINUSCULA Morrison

A specimen of this rare species, compared with the type, together with two pairs collected at Lakehurst, N. J., by Mr. Frederick Lemmer, were received with the Barnes Collection.

A single spine is occasional upon the mid tibia and/or upon the hind tibia. Specimens lacking the spines showed no traces of spine sockets where the scaling was removed.

The following subspecies was noted to possess similar tibial spines on the male, but not on the female.

Oligia minuscula grahami Benjamin, new subsp.

Similar to typical *minuscula*, but with a darker ground color; the well defined markings of the typical subspecies are obsolescent; the black filling is lacking in the cell; as is also the submedian dash.

The present subspecies also differs from typical *minuscula* by the clasper being more serrate, but the difference is probably not enough to be specific.

Holotype male, allotype female: both from Cap Rouge, Cape Breton Island, Nova Scotia, IX-2-28 (Graham Fairchild).

Notes: Holotype male in the U. S. N. M.; allotype female in Museum of Comparative Zoology. Cat. No. 44360, U. S. N. M.

ANTHOCHARIS SARA BDV., RACE STELLA EDW.

(Lepidoptera, Rhopalocera, Ascidiæ)

BY J. D. GUNDER

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Mr. J. W. Tilden of Santa Cruz spent the fore part of July, 1933, in the vicinity of Echo Lake in El Dorado County, California, and to him goes the credit for re-finding the Orange-tip butterfly, *Anth. sara stella* Edw. unreported in the last twenty years. He took quite a long series in both sexes in this locality. Echo Lake is in the eastern and highest part of El Dorado County, south of Glenn Alpine Springs (Fallen Leaf Lake) which adjoins Lake Tahoe, and is just off the main highway near the village of Vade. All this region is immediately south of Lake Tahoe.

Stella was adequately and accurately described by W. H. Edwards in the *Canadian Entomologist* (11:87, 1879), from a series of specimens taken at "Yo Semite" and near Lake Tahoe. Mr. Edwards knew it to be a high Sierra species and not in any sense a "variety" or what we might more modernly call a form. In the original description special mention is made of the lemon-yellow ground color in *both* sexes and in all specimens, and this difference is carefully noted in comparison to *reakirtii* Edw. and *julia* Edw.

In a list of the "Butterflies of the Lake Tahoe Region" published in the June, 1910, Entomological News, Mr. R. J. Newcomer reports *stella* a rather common diurnal near Glenn Alpine



Benjamin, Foster Hendrickson. 1933. "Notes on Phalaenidae (Lepidoptera)."
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