

ENTOMOLOGICAL NEWS

VOL. LIII

FEBRUARY, 1942

No 2

Notes on Some Cucullinae (Phalaenidae, Lepidoptera) II.

On the Identity of *Lithophane ferrealis* Grote and *Xylina innominata* Smith, with Descriptions of Some New Forms of the Genus *Lithophane*¹ Hübner.

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(Plate I.)

LITHOPHANE PETULCA form FERREALIS Grote (Pl. I, fig. 2).
Lithophane ferrealis Grote, 6th Ann. Rept. Peab. Acad. Sci., 32, 1874.

This form has troubled everyone who has attempted to work on the species of the genus *Lithophane* (*Graptolitha*, ‡*Xylina*). I think that one reason has been that no one, in all probability, has had a really 'pure' series of this form, as the same color form occurs in six other species, not including *oriunda*, and there can be no doubt that this has helped to create some of the confusion which seems to have always surrounded this form. There has also always existed the doubt as to the validity of this form as a species, but no one seems to have been able to decide to which species this form should fall. As

¹ *Lithophane* was proposed by Hübner, Verz. bek. Schmett., 242, 1821; *Graptolitha* follows immediately on the same page. Grote, considering *Graptolitha* a subgenus of *Lithophane*, designated the types of both names in the Sixth Annual Report of the Trustees of the Peabody Academy of Science, 1874, on pages 31 and 34 respectively; choosing as the type of *Lithophane*, *Noctua socia* Rott. (*petrificata* D. & S.), a species very closely allied to *amanda* Smith, in fact the latter species may prove to be but a geographical race of the former; and as type of *Graptolitha*, *Noctua furcifera* Hufn. (*conformis* D. & S.), a very close ally of *pexata* Grote. Hampson's (Cat. Lep. Phal. B. M., vi, 243 and 246, 1906) division of the species he includes in *Lithophane* and *Graptolitha* is purely artificial, in fact the characters of differentiation employed are non-existent! It is proposed here to use *Lithophane* for all the species included in both this genus and *Graptolitha* by Hampson; as a result *Lithophane* will replace *Graptolitha* of McDunnough's 1938-39 Checklist, page 83.

a result the name has stood on American lists as a valid species, and this is in part traceable to mixed series.

True *ferrealis* is the suffused form of *petulca* Grote. The fore wings have the costa, reniform and orbicular ashen with a slight bluish cast; the remainder of the wing is reddish, ferruginous black. The hind wings are blackish fuscous, with the fringes ruddy. The abdomen has the lateral and anal tufts ruddy.

This form is correctly figured by Smith, Trans. Am. Ent. Soc., xxvii, pl. III, figs. 11 & 12; normal *petulca* (*‡signosa* Smith) is figured on the same plate, figure 13, also figure 4 as "*disposita*—a little suffused."

Specimens examined: 57 from New Jersey, Pennsylvania, New York, Massachusetts and Maine; Ontario and Manitoba, Canada.

LITHOPHANE HEMINA form **lignicosta** form. nov. (Pl. I, fig. 4).

The costa, orbicular and reniform of the fore wing are wood brown; the remainder of the wing is vinous black to blackish brown; the ordinary markings where visible are as in normal *hemina*.

This form differs from *ferrealis* in its generally darker color, especially that of the costa, orbicular and reniform; it also lacks the warm reddish tints of that form. The fringe of the hind wings is dark brown, not ruddy; the lateral and anal tufts of the abdomen are also brown.

Holotype: ♂, Ithaca, New York, Sept. 29, 1940 (J. G. Franclemont), [in Coll. Franclemont].

Allotype: ♀, Ithaca, New York, Sept. 29, 1940 (J. G. Franclemont), [in Coll. Franclemont].

Paratypes: 97 ♂♂, 74 ♀♀ Ithaca, New York, Sept-April (J. G. Franclemont); 35 ♂♂, 49 ♀♀, McLean Bogs Reserve, Tompkins County, New York, Sept.—March (J. G. Franclemont); 3 ♂♂, 2 ♀♀, Chaffee, New York, September (J. G. Franclemont); [all in coll. Franclemont]. 8 ♂♂, 9 ♀♀, Horseheads, New York, October-April (L. R. Rupert), [15 in coll. Rupert, 2 in coll. Franclemont]. 1 ♂, 2 ♀♀, Lambs Creek, PENNSYLVANIA (L. R. Rupert), [in Coll. Rupert]. 1 ♂, Ottawa, ONTARIO, Canada, Sept. 11, 1905 (C. H. Young);

2 ♂ ♂, 1 ♀, Lobe, Ontario, Canada, Oct. 2, 1924 (A. A. Wood), [in Coll. Canadian National Museum]. 1 ♂, 2 ♀ ♀, Bear Mt., New York (H. J. Erb); 1 ♂, 1 ♀, Lakehurst, NEW JERSEY (F. Lemmer); 2 ♀ ♀, Pennsylvania (Merrick), [in Coll. Buchholz].

LITHOPHANE SIGNOSA form **pallidicosta** form. nov. (Pl: I, fig. 6).

The costa, orbicular and reniform of the fore wing are grayish with some brown streaking; the remainder of the wing is blackish brown. This form agrees with normal *signosa* Walker in its streaked appearance; except in very intensely suffused specimens, the normal pattern is evident.

This form differs from *ferrealis* and *lignicosta* in its longer and narrower wings, and in its more streaked pattern. The wing shape will separate both the normal and suffused forms from the corresponding forms of *petulca* and *hemina*. The costa, orbicular and reniform are distinctly darker than *ferrealis*, and the suffused area is darker also, lacking the warm red tints of *ferrealis*.

Holotype: ♂, Ithaca, NEW YORK, Sept. 27, 1940 (J. G. Franclemont), [in Coll. Franclemont].

Allotype: ♀, Ithaca, New York, Oct. 2, 1940 (J. G. Franclemont), [in Coll. Franclemont].

Paratypes: 23 ♂ ♂, 18 ♀ ♀, Ithaca, New York, Sept.-April (J. G. Franclemont), [in Coll. Franclemont]. 14 ♂'s & ♀'s, Bristol, RHODE ISLAND, Sept.-May (Howard L. Clarke), [10 in Coll. Bost. Soc. Nat. Hist., 2 in Coll. U. S. N. M., 2 in Coll. Franclemont]. 1 ♀, Randolph, VERMONT, September, [in Coll. Bost. Soc. Nat. Hist.]. 1 ♀, Lafayette, INDIANA, Sept. 1, 1916 (H. J. Hart), [in Coll. U. S. N. M.]. 1 ♂, Nantucket Island, MASSACHUSETTS, Oct. (C. P. Kimball), [in Coll. Kimball]. 2 ♂ ♂, 3 ♀ ♀, NEW JERSEY [in Coll. Buchholz].

I wish to thank Dr. Richard Dow of the Boston Society of Natural History for the loan of the material referred to above from that Institution.

LITHOPHANE PATEFACTA form **niveocosta** form. nov. (Pl. I, fig. 8).

The costa, reniform and orbicular of the fore wing clay white; the remainder of the wing vinous brown; the ordinary markings of the normal form are present and discernible.

This form is very similar to *ferrealis*, but differs in the slightly less reddish hue of the suffused area and in the more yellowish hue of the costa, reniform and orbicular, that of *ferrealis* being somewhat ashy-gray in hue.

Holotype: ♂, Ithaca, NEW YORK, Sept. 6, 1940 (J. G. Franclemont), [in Coll. Franclemont].

Allotype: ♀, Lakehurst, NEW JERSEY, October 10 (Frederick Lemmer), [in Coll. Franclemont].

Paratypes: 26 ♂♂, 25 ♀♀, Lakehurst, New Jersey, Oct.-March (Frederick Lemmer), [20 in Coll. Lemmer, 19 in Coll. Franclemont, 7 in Coll. Buchholz, 3 in Coll. U. S. N. M., 2 in Coll. Cornell Univ.].

I wish to express my sincere thanks to the late Mr. Frederick Lemmer for his most generous loan of the material of this form.

LITHOPHANE DISPOSITA form *argillocosta* form. nov. (Pl. I, fig. 10).

Fore wing with the costa, reniform, orbicular and a subterminal shade luteous gray; the remainder of the wing suffused with blackish sepia. The ordinary markings visible, and as in normal *disposita*.

This form differs from all the rest in its very distinctly outlined reniform and orbicular, in this respect resembling *oriunda*. It has none of the brown or red shades of *ferrealis* and the foregoing new forms.

This is the form figured as "*hemma* Grt.—melanic" by Smith, Trans. Am. Ent. Soc., xxvii, pl. III, fig. 2. As a means of explanation, it might be well to say, that the *hemina* of the Smith collection were hibernated specimens of *disposita*, thus in the light of this information, Smith's statement is understandable.

Holotype: ♂, MANITOBA, Canada, Sept. 13, 1905 (ex. Coll. Buchholz), [in Coll. Franclemont].

Allotype: ♀ Cartwright, Manitoba, Canada (ex. Coll. Buchholz), [in Coll. Franclemont].

Paratype: 1 ♂, Miniota, Manitoba, Canada, Sept. 13, 1905; 1 ♀, Manitoba, Canada, Sept. 13, 1905; [in Coll. Buchholz]. 1 ♀ Aweme, Manitoba, Canada, Sept. 4, 1922 (N. Criddle); 1 ♀ Lobe, ONTARIO, Canada, Oct. 18, 1924 (A. A. Wood);

[in Coll. Canadian National Museum].

LITHOPHANE BETHUNEI form **luteocosta** form. nov. (Pl. I, fig. 12).

Forewing with the costa, reniform, orbicular and a subterminal shade white with a slight luteous cast; the remainder of the wing dusky black. The ordinary markings evident and as in the normal form of this species.

This form closely resembles *niveocosta* and *ferrealis* in its light costa, but differs from these two forms in lacking all the warm reddish shades of these two forms.

Holotype: ♂ Lobe, ONTARIO, Canada, Sept. 23, 1924 (A. A. Wood), [in Coll. Canadian National Museum.]

This form was most generously loaned to me for description by Dr. J. H. McDunnough, and I wish to thank him for this kindness.

LITHOPHANE BETHUNEI form **duscalis** form. nov. (Pl. I, fig. 13).

The fore wing deep olive umber brown, slightly irrorate with gray; the ordinary markings as in *bethunei* proper; the reniform outlined by reddish russet; orbicular oblique, inconspicuous; the subterminal line an irregular series of pale spots with an irregular reddish russet shade on their inner side; the terminal area with a blackish shade below the costa and another at the anal angle, these bordered on their inner side by the subterminal line; the antemedial line indicated on its inner side by a double series of black dots on the veins, the postmedial by a similar series on its outer side; median shade irregular and diffuse, enveloping the reniform. The hind wing dusky black; the fringe pale russet contrasting with the rest of the wing.

This form resembles both *petulca* and *hemina*, but perhaps the former more than the latter; it is somewhat lighter than *hemina*, being of the general tone of *petulca*, but lacking the evident ashy-blue overcast of that species. One of the most outstanding features of this form is an oval spot of light grayish brown, just above the inner margin and between the postmedial and subterminal lines; this stands out very markedly and is not possessed by either *petulca* or *hemina*.

Holotype: ♂, Ithaca, NEW YORK, Sept. 27, 1940 (J. G. Franclemont), [in Coll. Franclemont].

Paratypes: 11 ♂ ♂, 10 ♀ ♀ (Bred ex ova), Ithaca, New York, 1941 (Franclemont), [in Coll. Franclemont].

(To be continued.)



1942. "Notes on some Cucullinae (Phalaenidae, Lepidoptera)-II."
Entomological news 53, 31–35.

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