

—Doctor Dyar presented the following papers:

NOTES ON THE SPECIES OF ACROBASIS, WITH DESCRIPTIONS OF NEW ONES.

[Lepidoptera, Pyralidæ, Phycitinæ.]

By HARRISON G. DYAR.

Mr. Charles R. Ely, of Washington, D. C., recently left with me a box of pyralids collected by himself, among which were some Phycitinæ. These contained such a fine series of *Acrobasis* (over half of the specimens being of this genus) that I was induced to review the species listed in the genus. The species of *Acrobasis* Zeller have a raised ridge of scales near the base of the fore wings; the males have a small projection on the basal joint of the antennæ and, in some species, various tracts of modified black scales on the underside of the wings. Doctor Hulst, in reviewing the genus (Trans. Am. Ent. Soc., xvii, p. 123, 1890), casts doubt on the specific value of these black markings, but for myself, I believe in them entirely, as they are not variable in the several species. They are secondary sexual characters, of as much importance as the projection on the antennæ, which Doctor Hulst uses for generic definition. While I think that these characters ought not to be used as generic, there is certainly no doubt of their specific value. I would base the separation of the species primarily upon them, as in the following table. In several instances species are indistinguishable as imagines, but have dissimilar larval habits and food plants. These are bracketed in the table. No attempt should be made to identify species without male specimens, much less to found new species on such material. Two species, *cirroferella* Hulst and *fructetella* Hulst, are unknown to me and not identifiable from the descriptions.

TABLE OF THE NORTH AMERICAN SPECIES OF ACROBASIS ZELLER.

Fore wing of male beneath with a small black dash at base of costa.

Hind wing of male with black markings below.

Hind wing with two black streaks, one subcostal, the other on median vein.

Subcostal black streak from base to beyond middle.

angusella Grote.

Subcostal black patch oval, not reaching base.

demotella Grote.

- Hind wing without the black streak on median vein, the subcostal one present.
- Fore wing with a black subcostal streak below from base to middle *nigrosignella* Hulst.
- Fore wing without such a streak.
- Hind wing with a black streak from base to beyond middle *eliella* Dyar, n. sp.
- Hind wing with an oval black spot on middle of costa, *stigmella* Dyar, n. sp.
- Hind wing of male without black markings beneath.
- Fore wing of male below with a black subcostal streak from base to beyond middle..... *caryivorella* Ragonot.
- hebescella* Hulst.
- evanescentella* Dyar, n. sp.
- Fore wing of male without such a streak.
- Fore wing white from base to beyond middle (male, female) subcostally, cutting the inner line.
- kearfottella* Dyar.
- Thorax and base of fore wing white.... *palliolella* Ragonot.
- Thorax and base of fore wing gray..... *nebulella* Riley.
- Fore wing of male beneath without black sex-marks.
- Fore wing modified, the cell broad, veins 4-5 from a point distant from veins 2-3..... *malipennella* Dyar, n. sp.
- Fore wing of male normal.
- Scale ridge of fore wing (male, female) edged with orange-red or brown outwardly..... *latifasciella* Dyar, n. sp.
- normella* Dyar, n. sp.
- Scale ridge edged with dark red..... *rubrifasciella* Packard.
- comptoniella* Hulst.
- Scale ridge edged with dull clay-color or gray,
- caryæ* Grote.
- betulella* Hulst.

✓ *Acrobasis angusella* Grote.

I have but a single specimen of this, a female bearing Dr. C. V. Riley's number 376, *Acr. juglandis*, Hickory, June 12, 1871, also Doctor Hulst's identification label, *Acrobasis angusella* Grote. Mr. Grote's separation of this and the following species (*Papilio*, 1, p. 14, 1881) is pertinent and can not be improved upon.

✓ *Acrobasis demotella* Grote.

Four specimens are before me: A male, New Brighton, Pa., June 5, 1902 (H. D. Merrick); three females, Tryon, N. C., May 28, 1903 (W. F. Fiske); 2 miles west of St. Louis, Mo., June, 1904 (Aug. Busck); the third presumably from Chicago,

Ill., but labelled only "3" (A. Kwiat). The food-plant still remains unknown.

✓ **Acrobasis nigrosignella** Hulst.

I have a single specimen that I refer to this species, Tryon, N. C., May 7, 1904 (W. F. Fiske). Ragonot refers the name as a synonym to his *minimella* (Mon. Phyc. Gall., 1, p. 105, 1893), but I can not concur in this view. *Minimella* Ragonot should rightly have no standing, being described from a female only, and from its size, markings, and locality I refer it to *nebulella* Riley (see below).

✓ **Acrobasis eliella**, n. sp.

Head and thorax gray, with a reddish shade; abdomen gray, the segments ringed with whitish. Fore wing gray, shaded with red at the base, the scale-ridge black, extending half way across the wing, resting on inner margin; beyond it a broad orange-red band, narrowing toward costa and followed by a black shade on the costal half; discal dots joined; outer line mesially exserted, slender, denticulate, with an oblique inward shade from its upper angle, followed by a red shade. Hind wing gray. In the male there is a broad black streak on the hind wings below from base to beyond middle, approaching the costa at its end. Expanse, 19 mm.

Four males and six females East River, Conn, August 20, 1906 (Chas. R. Ely).

Type.—No. 11547, U. S. National Museum; three specimens in Mr. Ely's collection. Named in honor of Mr. Charles R. Ely.

✓ **Acrobasis stigmella**, n. sp.

Head yellowish white on face and vertex, the palpi tipped with white; collar white in the middle, the rest of the thorax dark purplish gray; abdomen yellowish gray, ringed with dark at the bases of the segments, the basal segments brown dorsally. Wings purplish gray, the basal space very dark, the scale ridge scarcely darker, followed by a narrow obscure reddish shade; discal dots small, separated; outer line whitish, not strongly relieved, excurved in the middle, dentate, surrounded by a darker purplish shading. Hind wings pale gray with a yellowish tint. In the male there is a black subcostal streak on the fore wings below and an elongate oval patch close to the costa of hind wing below before the middle. Expanse, 19 mm.

Two males, one female, bred from larvæ on hickory, Fort Lee, N. J., May, 1896 (H. G. Dyar); one female, East River, Conn., August 20, 1906 (Chas. R. Ely).

Type.—No. 11548, U. S. National Museum.

The larvæ web up the three leaflets at the end of a leaf and form a mine in the stem where they are attached, or web up a little leaf and burrow in the young wood. They occur only in the young, unfolding leaves. The larva is cinereous green, the head, cervical shield, and thoracic feet shining black; anal plate brown. The body tapers abruptly at both ends. Tubercles small, brown, the hairs long, black; thoracic segments with three annulets, abdominal ones with two, the tubercles normal, iv and v closely approximate, i and ii nearly in line.

✓ **Acrobasis caryivorella** Ragonot.

I refer to this species a male and a female from the Texas Agricultural and Mechanical College Insectary, July 12 and 20, 1903 (A. C. 225); a female, Burnet Co., Tex. (F. G. Schaupp through W. D. Kearfott), and two males, East River, Conn., August 8, 1906, and September 2, 1907 (Chas. R. Ely).

✓ **Acrobasis hebescella** Hulst.

Six specimens from Brownwood, Tex., bred at the Insectary of the U. S. Department of Agriculture from larvæ on pecan mining into the young buds; one specimen, East River, Conn., August 2, 1906 (Chas. R. Ely). The species is very close to *caryivorella* Rag., but differs in the obsolescence of the outer line, all the space beyond the scale ridge being nearly uniformly cinereous.

✓ **Acrobasis evanescentella**, n. sp.

Entirely similar to *A. caryivorella* Ragonot, somewhat darker in color. The specific difference lies in the sex-mark of the male, which is pale gray, overlaid by gray scales, not deep black and distinct as in *caryivorella*; the mark is also narrower.

Twelve specimens, Orlando, Fla., bred from larvæ on pecan by a correspondent of the U. S. Department of Agriculture; breeding No., Chittenden, 250.

Type.—No. 11981, U. S. National Museum. Seven of the types deposited in the National Museum, the rest with Doctor Chittenden.

✓ **Acrobasis kearfottella** Dyar.

Besides the types, I have seen a specimen from New Brighton, Pa., now in the collection of Mr. F. A. Merrick, to whom I returned it. The species is larger and stouter than the following, though in general similar.

✓ **Acrobasis palliolella** Ragonot.

Ragonot and Hulst place *albocapitella* Hulst in the synonymy of this species, correctly, I presume, though I have seen neither

of the types. I have ten specimens in the collection under this label, Palatka, Fla., on pecan, issued May 27, 1903; Olustee, Fla., June, 1904; Black Jack Springs, Tex. (through Dr. Wm. Barnes); Cairo, Ga., issued June 6, 1903; Blacksburg, Ga., on pecan, issued May 28, 1902 (W. R. William); Washington, D. C., on walnut, issued June 7, 1903 (Aug. Busck); Chicago, Ill., July, 1900 (Coll. W. D. Kearfott). The specimens possess the white thorax and base of fore wings, but the white is more or less grayish and grades into the color of the following species. I expect it will be found that *palliolella* is not more than a variety of *nebulella* Riley. They differ in no other respect.

✓ *Acrobasis nebulella* Riley.

This name is listed as a variety of *Mineola indigenella* Zeller, but Riley's type before me is clearly an *Acrobasis* and differs from *palliolella* only in the gray color of thorax and base of fore wings. *Minimella* Rag., made to replace Hulst's *nigrosignella* by Ragonot and referred to the synonymy of *caryæ* Grote by Hulst, will find place here as a synonym. It was described from females and so can not be positively referred, but it contradicts this species in nothing, and its small size favors the reference as this is the smallest species before me. Ragonot's figure agrees well with specimens of *nebulella*, and the locality is consonant. I have 23 specimens before me, 4 bred by Doctor Riley on hickory and walnut, including the type of *nebulella*; Atlanta, Ga. (W. M. Scott); Texas (Jacob Boll), this specimen submitted to Ragonot by Riley in 1886 and marked "*Acrobasis*, too poor to name"; also submitted to Dr. Hulst in 1900 and labelled "probably *Mineola nebulella*," Kerrville, Tex., at light, May 30 to June 1, 1906 (F. C. Pratt); Blackshear, Ga., on pecan, issued June 12, 1902 (Dept. Agr., No. 8637); Rhinebeck, N. Y., July 27, 1888 (H. G. Dyar), the latter a female and the reference therefore less certain.

✓ *Acrobasis latifasciella*, n. sp.

Agrees entirely with the description of *A. eliella* above; the same words might be repeated. It differs, however, in lacking all traces of sexual markings on the wings beneath in the male.

One male, New Brighton, Pa., Aug. 4, 1903 (H. D. Merrick); three males and one female, Plummers Island, Maryland, July 9, August 3, and 10 (Busck, Schwarz, and Barber); one female, June 22, 1886, bearing the number 2504 (presumably Doctor Riley's) and determined by Hulst as *Acro-*

basis caryæ. Mr. Ely has two specimens taken near Washington, D. C., by himself.

Type.—No. 11549, U. S. National Museum.

The Riley notes, preserved at the Department of Agriculture, contain under the number 2504 two entries, Kirkwood, Mo. (Miss Murtfeldt) and Virginia (Pergande), the larvæ on hickory in both instances.

✓ ***Acrobasis normella*, n. sp.**

The pattern and colors are the same as in the allied species, but the orange-red space beyond the scale ridge is narrow and there is an oblique white shade from beyond the end of the scale ridge to the costa at inception of the outer line, relieving the small, separate discal dots strongly. The male has no sexual markings beneath. Expanse, 19 mm.

One male and one female, East River, Conn., August 2, 1907 (Chas. R. Ely).

Type.—No. 11550, U. S. National Museum.

✓ ***Acrobasis rubrifasciella* Packard.**

I have several specimens under this label, but am not certain of any of them, as none is bred. The food plant is alder. Specimens not bred can not be distinguished from the following species:

✓ ***Acrobasis comptoniella* Hulst.**

I have a series of specimens bred from sweet fern at Center Harbor, N. H. (H. G. Dyar). The larvæ have the head dark red, black in the sutures; cervical shield pale reddish, contrasting; body blackish, with broad diffuse dorsal and lateral pale reddish bands; feet black. The tubercles are minute and inconspicuous. Mr. Ely has a large series captured at East River, Conn. He says that the sweet fern is abundant at that locality.

✓ ***Acrobasis caryæ* Grote.**

Ten specimens are before me, bred from pecan at the Insectary of the Department of Agriculture under the number 5023, from Summerton, S. C., and three others somewhat doubtfully referred, as the food plants are not known. Without the food plant, this species is indistinguishable from the following. The larval habits of the two seem different enough, for while *caryæ* eats into the young buds of hickory, *betulella* feeds on the leaves of birch later in the season, forming a hard ball of excrement surrounded by a loose web.

Acrobasis betulella Hulst.

On black birch, Maine, July 18-23, 1887 (A. S. Packard); two, Center Harbor, N. H., larvæ on birch, June 24, 1902, adult July 9, 1902 (H. G. Dyar); larva in web on birch, Platte Canyon, Colorado, June, 1901, adult, July 1, 1901 (H. G. Dyar); five, bred from Birch, Sisson, Cal. (A. Koebele); one, bred from white birch, Hampton, N. H., July 9, 1906 (S. A. Shaw). The Californian specimens are a shade paler and smoother than the Eastern specimens, but do not greatly differ; the Coloradan specimen is as dark as the Eastern ones.

Acrobasis coryliella, n. sp.

A single male specimen before me, scarcely distinguishable from *caryæ* and *betullella*, but labelled "Phycita on Hazel, June 14, 15, 1876. No. 96" in a handwriting which may possibly be that of Doctor Lintner. It bears also Grote's determination "*Acrobasis rubrifasciella*." The food plant indicates a different species and the moth also is grayer, more uniform, without white shading, the outer line more distinct and finely crenulate. Mr. Ely has kindly given me three specimens from East River, Conn., that seem the same but have no record of food plant. Their dates are August 6 and 11.

Type.—No. 11551, U. S. National Museum.

Acrobasis malipennella, n. sp.

Head and thorax cinereous, tinged with coppery red; abdomen dark gray, the segments whitish at their tips. Fore wing short and broad, the cell broad, veins 2 and 3 arising close together, 4 and 5 from a point distant from them; gray, the scale ridge black, reaching half way across the wing, followed by a red shade and a black triangular cloud on costa; median field whitish frosted toward costa, enclosing a single black discal dot near the costal edge; outer line obsolete. Hind wing with the lower angle of the cell produced, veins 4 and 5 stalked; uniformly dark gray. Expanse, 13 mm.

One male, East River, Conn., August, 1907 (Chas. R. Ely). A second specimen is possibly the female of this species, but its wings are long and narrow as usual, while the venation is normal; the color resembles that of the male specimen, but the outer line is visible, mesially exerted, crenulate, outwardly pale, followed by a dark red shade; discal dots double, separate, black.

Type.—No. 11552, U. S. National Museum.

The male is easily distinguished by its peculiar short wings; the female, if rightly associated, has the wings of normal

shape and resembles *A. normella* Dyar. It is redder than that species and without the conspicuous white mesial shading.

Acrobasis sp.

Two females before me differ from anything in the collection, but may await the discovery of the male before being named. They are very dark gray, the scale ridge slender and slight, the following light shade very narrow, orange-red.

New Brighton, Pa., July 28, 1906 (H. D. Merrick); East River, Conn., August 4, 1906 (Chas. R. Ely).

NOTES ON SOME AMERICAN COCHLIDIIDÆ, WITH DESCRIPTIONS OF NEW SPECIES.

[Lepidoptera.]

By HARRISON G. DYAR.

Sibine apicalis Dyar.

The series of this species has been increased by 2 males, Cordoba, Mexico, May, 1906 (Wm. Schaus); 4 males, Cordoba, Mexico, August, 1906 (R. Müller); 2 males and 2 females, San José, Costa Rica, October, 1906 (Wm. Schaus); 1 female, La Florida, Costa Rica, March, 1907, and 1 male, Guapiles, Costa Rica, May, 1907 (Wm. Schaus).

This species seems, in series, distinct from the North American *Sibine stimulea* Clemens, being larger, and more spotted, the spots irregular and yellow instead of white.

Sibine sp.

Several specimens of *Sibine* have been sent in by Mr. Schaus which I can not place satisfactorily. The species of *Sibine* must be worked up from the larval side before their specific limits can be determined.

Parasa imitata Druce.

One male, Orizaba, Mexico (R. Müller).

Parasa fauna, n. sp.

Vertex of head and thorax green, face brown, as also lateral margins of patagia and a central line on thorax. Abdomen brown. Fore wing green, a brown patch at base resting on costa, the outer margin narrowly brown with an enlargement below vein 2 and a larger one between veins 4 and 6; a deeper green patch at end of cell. Hind wings and under side brown. Expanse, 37 mm.