

The American species of *Diatraea* Guilding (Lepid., Pyralidae).

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I have referred (Proc. ent. soc. Wash., xi, 29, 1909) to the fact that Sir G. F. Hampson, in his revision of the Crambinae (Proc. Zool. soc. Lond., 1895) describes the genus *Diatraea* in his synoptic table as having a frontal prominence, whereas the type species, *saccharalis* Fabr., is really without this structure. It is true that in the text the frontal prominence is not mentioned, the statement being "frons with a tuft of hairs." I was formerly inclined to regard this as an error in the diagnosis, subject to correction, but the examination of further material has convinced me that the frontal prominence is a variable character, of less than specific value. The generic table will need correction, but the genus *Diatraea* may include species with or without the frontal prominence.

In the same paper Hampson recognized but three American species of *Diatraea*. This number will have to be considerably amplified. I arrange the species at present in the following manner:

§ 1. *Saccharalis* group.

✓ *Diatraea saccharalis* Fabricius.

This species is divisible into a number of well-marked geographical forms. Two of them occur in the United States. The typical *saccharalis* reaches us by the way of the West Indies and occurs in Florida. The race *crambidoides* Grote comes from Mexico and occurs in the Gulf States. The following subspecies are before me:

✓ *Diatraea saccharalis saccharalis* Fabricius.

Phalaena saccharalis Fabricius, Ent. Syst., III, 2, 238, 1794.

Crambus leucaniellus Walker, Cat. Brit. Mus., XXVII, 161, 1863.

This form is small, the wings rather narrow, but squarely tipped and not especially pointed. The front is smooth and flat, scarcely at all projecting before the eyes and without any trace of the frontal cone or tubercle. Specimens are before me from French Guiana (W. Schaus), Cuba (W. Schaus,

E. A. Schwarz), Trinidad (F. W. Urich) and a single female from Peru. Also a female from southern Florida (H. G. Dyar). Walker's *Crambus leucaniellus* was described from Santo Domingo and so must belong to this form; but I have not seen any males from Santo Domingo. The two females before me (A: Busck) agree with Cuban females.

✓ ***Diatraea saccharalis grenadensis*, new variety.**

A single male is before me. The front is distinctly protuberant, but smooth, without any cone; the hind wings are white, the fore wings pale straw color and pointed at apex. The specimen looks like a little female.

Grenada, British West Indies (Schaus collection).

Type, No. 13610 U. S. National Museum.

✓ ***Diatraea saccharalis obliteratellus* Zeller.**

In this the front is strongly roundedly protuberant and there is a minute cone towards the upper part of the front. It was described from Brazil. I have females only from Castro, Parana, Rio Janeiro and Nova Friburgo (Schaus collection), besides one from Sapucay, Paraguay (W. T. Foster).

✓ ***Diatraea saccharalis tabernella*, new variety.**

The front is rather flat, but is drawn out above into a distinct pointed cone, somewhat flattened dorso-ventrally. The hind wings are white in the male as well as in the female. The fore wings are straw-color, the two lines of dots present in both sexes, but rather weak in the females or partly obsolete. The wings are rather narrow, squarely shaped, the apex pointed.

Canal Zone, Panama and Nicaragua.

Types, male and female, Tabernilla, Canal Zone, Panama (A. Busck).

Type, No. 13611, U. S. National Museum.

This form may possibly be a distinct species.

✓ ***Diatraea saccharalis crambidoides* Grote.**

Chilo crambidoides Grote, Can Ent., XII, 15, 1880.

? *Crambus lineosellus* Walker, Cat. Brit. Mus., XXVII, 162, 1863.

In this form the front is roundedly prominent, slightly projecting above beyond the eyes, but without cone or tubercle. The male has the hind wings dusky, those of the female are white. The wings are

narrow, outer margin oblique, apex pointed. The male is brownish ochre in color, the female straw yellow; the two rows of brown dots are distinct in both sexes.

Range: Mexico, numerous localities, Gulf States and lower Mississippi Valley.

Grote's *crambidoides* was described from Kansas, so there can hardly be any doubt of the application of the name. Walker's *lincosellus* was described from Honduras, whence I have no material. If the names shall be found to refer to the same form, Walker's name would have priority.

✓ ***Diatraea pedidocata*, new species.**

Similar to *D. saccharalis crambidoides*. The females are even narrower-winged, brownish ochre instead of straw yellow, while the outer row of dots runs closer to the margin and anal angle and is darker in color. The fore wings resemble those of male *crambidoides* rather than those of the female. The hind wings are white.

Two females, Cordoba, Mexico, January 27, February 27, 1908 (F. Knab).

Type, No. 13612, U. S. National Museum.

This is perhaps only a dark variety of the female of *crambidoides* Grt.

✓ ***Diatraea instructella*, new species.**

A large species resembling *crambidoides*, much larger, the markings coarser, the lines of dots distinct, diffused, almost continuous, the inner line drawn in at its termination almost to the base of the wing. Discal dot distinct, black; terminal dots minute. Hind wing white. The front is smooth, rounded, gently convex.

One female, Popocatepetl Park, Mexico, July, 1906 (W. Schaus).

Type, No. 13613, U. S. National Museum.

✓ ***Diatraea magnifactella*, new species.**

Another large species of the *crambidoides* type. Male brownish ochreous, the hind wing dusky, almost blackish; lines of dots on the fore wings distinct, approximated. The wings are rather broad, square at the apices. Female pale straw yellow, the markings much less distinct than in the male. Hind wings soiled yellowish, slightly shaded with fuscous toward anal region. The front is prominent and has a small central cone, the tip of which projects through the vestiture.

Male and female, Orizaba, Mexico, April, 1908 (R. Müller); Male and two females Cuernavaca, Mexico, June and August, 1906 (W. Schaus); one female, Jalapa, two females, Oaxaca, Mexico (Schaus collection).

Type, No. 13614, U. S. National Museum.

✓ *Diatraea minimifacta*, new species.

A small square-winged species. The wing is darkly shaded through the middle, obscuring the lines, which are sub-continuous and not resolved into dots; veins brown-lined beyond this shade, terminal black dots between the veins with white points before them relieved on the brown ground. Hind wing white. Expanse, 18 mm. The front is smooth and nearly flat.

Two females, Trinidad, British West Indies (Schaus collection, A. Busck).

Type, No. 13615, U. S. National Museum.

Diatraea continens, new species.

Fore wing straw yellow, the veins lined in brown, with faint lines between; two brown oblique parallel lines joining a brown cloud at apex; terminal dots small black, discal dot brown. Hind wing white, nearly pure. Front smooth and nearly flat.

One female, Castro, Parana, Brazil (Schaus collection).

Type, No. 13616, U. S. National Museum.

✓ *Diatraea pedibarbata*, new species.

Front smooth, rounded, slightly prominent; hind tarsi short, the tibiae with a large tuft of hairs. Dark brown, the lines as usual but not relieved, obscure against the dark ground. Body parts also dark, but hind wing whitish, with only a slight straw-color tinge. Expanse, 23 mm.

One male, St. Laurent, Maroni River, French Guiana (W. Schaus).

Type, No. 13617, U. S. National Museum.

✓ *Diatraea canella* Hampson.

Diatraea canella Hampson, Ann. Mag. Nat. Hist., (6) XVI, 349, 1895.

This species has a strong frontal prominence in the form of a plate with a point in the center. The general color is reddish gray without any of the straw yellow tint. The dots on the fore wing are larger and less strigose than usual in the *saccharalis* group; they are nearly obsolete in the female, which is of a nearly uniform reddish gray.

Specimens are before me from Grenada, Trinidad and the Guianas. Hampson gives also Brazil, but Brazilian specimens before me are separable specifically. The species feeds on sugar cane in the larval state, as proved by a bred specimen from Mr. F. W. Urich.

✓ *Diatraea amnemonella*, new species.

Similar to *canella* Hamps., but narrower-winged, the markings more diffused and obscured. The female is gray, like the male, while the hind wings are white in both sexes. The frontal prominence is a central cone, not a plate.

Male and female, Castro, Parana, Brazil (Schaus collection).
Type, No. 13618, U. S. National Museum.

✓ *Diatraea zeacolella*, new species.

Female with the wings broad, the apex square; color straw yellow, the brown lines on the veins conspicuous, generally more so than the lines between the veins; no bands of dots, or only slight traces of them; terminal dots larger than in *saccharalis*, but yet small, generally present; discal dot black, present.

Male generally larger and somewhat broader winged than *saccharalis*, the same specific differences present as in the female, but in lesser degree; the two bands of dots are present, but are not intensified by dark shades; the linings on the veins are more contracted than in *saccharalis*.

Types, five males and nine females, Tryon, North Carolina, April 4, June 2, August 2 and 9, 1904 (W. F. Fiske); Ninety-six Post Office, South Carolina, larvae received July, 1880, issued May 9, 1881 (W. L. Anderson); Fredericksburg, Virginia, issued July 26, 1890 (Dept. Agr., No. 1015P); Alexandria County, Virginia, larvae in *Thripsacum dactyloides* July 15, 1891, adults issued August 13 and 21, 1891 (T. Pergande).

Type, No. 13556, U. S. National Museum.

The figures published by Dr. Howard of the "larger corn-stalk borer." (Insect Life, iv, 95, 1891) represent *D. zeacolella*.

This species is transitional toward the next group, the males having the markings of the *saccharalis* group, whereas the females considerably resemble *lineolata* Walker.

Iesta lisetta Dyar.

Iesta lisetta Dyar, Proc. Ent. Soc. Wash., XI, 29, 1909.

This little species has the straw-colored wings and rows of dots characteristic of the *saccharalis* group and also the essential generic character of the union of vein 11 with 12. But vein 10 is stalked with 8 and 9, and it is therefore necessary to remove the species from *Diatraea*, as I have done.

§ 2. *Lineolata* group.**Diatraea lineolata** Walker.

Leucania lincolata Walker, Cat. Brit. Mus., IX, 100, 1856.

Crambus impersonatellus Walker, Cat. Brit. Mus., XXVII, 163, 1863.

Chilo ncuricellus Zeller, Mon. Chil. & Cramb., 8, 1863.

The front has a distinct cone, across which runs a transverse ridge. The fore wings are brownish or straw color, the veins brown with brown lines between, not strongly contrasted; terminal dots absent or minute; discal dot often absent.

There is a lightening of the ground color in the interspaces beyond the cell, forming a faint pale ray outwardly from the discal dot, which is never very distinct, but gives a characteristic appearance. Hind wings soiled white in the male, with only a faint yellowish tinge in the female.

We have this species from Cuba, Trinidad, the Guianas, Venezuela, Costa Rica, Mexico and southern Arizona, all without any marked variation or tendency to local forms, except that in the northern end of its range there is a tendency to the loss of the frontal prominence. It is absent in a male from Tehuacan before me, in a female from Cuernavaca and in the single female from southern Arizona. This is not a fixed local character, as other specimens from the same places, indistinguishable in color, possess the frontal prominence.

Diatraea culmicolella Zeller.

Chilo culmicolellus Zeller, Mon. Chil. & Cramb., 7, 1863.

This was described from Colombia, and said to differ from the preceding only in the obsolescence of the linings and discal dot. I have no specimens from Columbia, so let the name stand, but I think it will be found to be the same as *lineolata* Walker.

✓ *Diatraea grandiosella*, new species.

A single large female differs from the series of *lineolata* in its brownish color, without any yellow tint. The linings on the veins and between are very distinct; terminal dots minute, black; discal dot obsolete. The front is smooth, without prominence. Hind wings soiled white.

One female, Guadalajara, Mexico (Schaus collection).

Type, No. 13619, U. S. National Museum.

This may be a variation of *lineosella*, but it does not match any in the series. In *lineolata* when the veins are strongly lined the intravenular streaks are less strongly marked. In *grandiosella*, all are alike, heavily marked.

✓ *Diatraea pallidistricta*, new species.

Front conically protuberant, but without any point or ridge. Wings as in *lineolata*, the linings indistinct and blurred, the whitish discal ray strong, broad and contrasted. Discal dot minute; terminal dots absent. Hind wing white.

One female, São Paulo, Brazil (Schaus collection).

Type, No. 13620, U. S. National Museum.

✓ *Diatraea angustella*, new species.

The front is smooth, roundedly protuberant. Wings narrow, pointed at apex, much as in *lineolata* but darker, the veins strongly relieved in brown, the intervenular streaks broad and diffused, sometimes entirely filling the spaces between the veins. No terminal dots. Discal dot small, sometimes absent. Hind wings white, slightly soiled in the male, faintly yellowish in the female.

Two males, ten females, Castro, Parana, Brazil (Schaus collection).

Type, No. 13621, U. S. National Museum.

✓ *Diatraea bellifactella*, new species.

Front with a cone and transverse chitinous ridge. Wings moderately broad, the apices depressed. Pale straw color, the veins strongly lined in brown; a brown shade from apex towards end of cell, in the male continued across wing by thickenings of the lines on the veins; an outer parallel row of thickenings oblique from middle of outer margin to middle of inner margin; streaks between the veins linear, not distinct; discal and terminal dots small, blackish. Hind wing soiled white in both sexes.

Male, São Paulo, Brazil; female, Castro, Parana, Brazil (Schaus collection).

Type, No. 13622, U. S. National Museum.

✓ ***Diatraea strigipennella***, new species.

Chilo strigipennellus Hampson, MS.

Front with conical prominence with chitinous point at tip. Markings as in *lineolata*, but gray and brown, without straw color. In the male two faint curved parallel shaded lines. The pale discal ray is fairly conspicuous.

Specimens are before me from the Guianas and Brazil, including a female cotype from Castro, Parana.

Type, No. 13623, U. S. National Museum.

Sir G. F. Hampson writes that he suppressed his description of this species, having concluded that it was the same as *D. lineolata* Walk. It is, however, smaller, and gray, not yellow, while the males are narrower-winged and have the two parallel curved lines well shown.

✓ ***Diatraea berthellus*** Schaus, new species.

"Fore wing with the costal portion ochreous brown, shading to yellow costally; a silvery white ray from base to outer margin, widening outwardly and diffused below; a gray area below this; inner margin broadly light yellow at base, the yellow shading into the gray outwardly and lost before the anal angle; a row of terminal black points; fringe metallic. Expanse, 20 mm.

Castro, Parana, Brazil," Schaus, MS.

Type, No. 13624, U. S. National Museum.

The front has a thick cone with sharp chitinous point. The species is wholly unlike the *Diatraea* species here discussed, and is, I think, not properly referable to *Diatraea*, but rather to *Chilo*. It is true that in the type vein 11 makes a short anastomosis with 12, but in the other three specimens it runs free, though very close to 12. The majority of the specimens have the vein free as in *Chilo*, while in the type itself there is only a short anastomosis, not a complete union of the veins as in *Diatraea*. The species resembles the North American *Diatraea parallela* Kearfott, but that is a typical *Diatraea* with flat front.

Crambus faunellus Schaus, new species.

"Fore wing straw yellow, shaded slightly with brown towards inner margin; veins faintly bordered with brown on each side; a brown discal dot, one below on vein 2 and a slight one at anal angle. A row of terminal black dots between the veins. Hind wings slightly shaded with brown except along costa; fringe pale on both wings. Expanse, 31 mm.

Sao Paulo, Brazil." Schaus, MS.

Type, No. 13625, U. S. National Museum.

The front is smooth, antennae of the male slightly thickened and flattened, fore wing with vein 7 given off further from the apex than 9, 11 curved and approximated to 12, 4 and 5 stalked. This brings it in the group with *distictellus* Hampson, than which it is much larger and has a terminal row of black dots on fore wing. I mention this species here because the females were included under *Diatraea lineolata* in the collection, to which they bear a strong superficial resemblance. They differ from the male only in having the wing slightly more pointed, the linings along the veins a little more distinct, while the spots are less distinct, and the hind wings are paler, being a slightly soiled white.

A Supposed Occurrence of *Anagrus incarnatus* Haliday in the United States (Hym.).

By A. A. GIRAULT Urbana, Illinois.

Sometime during 1909 I received from Professor C. P. Gillette, of the Colorado Agricultural College, a slide bearing single specimens of both sexes of a species of *Anagrus* Haliday, with the request that I identify it if possible. The slide was labelled "probably from eggs of *Aphis pomi*." Soon after its receipt I examined the specimens and decided that they could not be separated from *Anagrus incarnatus* Haliday, specimens of which I have as a loan through the ready kindness of Dr. L. O. Howard. Subsequently, however, a more careful comparison showed differences of such character as to preclude the sameness of the two sets of specimens and the Colorado specimens are therefore representatives of an undescribed species. At the present time Mymarids of the Euro-