

# VI. A preliminary catalogue of the Lepidoptera Heterocera of Trinidad. By WILLIAM JAMES KAYE, F.E.S.

[Read February 5th, 1901.]

#### PLATES V. AND VI.

ALTHOUGH Trinidad is within such easy reach of England, and has the inducement to visitors of being in a civilized state, its Lepidopterous fauna has been almost wholly neglected, and no scientific lists have been published, except the preliminary list of the butterflies by Mr. Crowfoot in the Transactions of the Trinidad Literary and Philosophical Society. This is all the more remarkable as the fauna is an exceedingly rich one, as one might expect in an island belonging to the Neotropical Region and lying so near to the Equator. The butterflies enumerated in Mr. Crowfoot's list number up 199, and this is far short of the actual total as my own records can show. If one can compute at all the number of Heterocera, it should, without including Tortricidæ and Tineidæ, not fall far short of 1000 species even at a modest estimate. I have been able to record only 245 at present, not including the Tortricidæ and Tineidæ, but I hope to supplement this number at a future date. Hitherto nothing has, I believe, been published on the moths of Trinidad. It has therefore been necessary to search through the specimens at the British Museum for Trinidad labels. Comparatively few have been found, and the species are mostly those taken by my brother, Mr. S. Kaye, at Verdant Vale in 1895, and my own captures in various parts of the island in May and June 1898. My best thanks are due to Sir George Hampson for valuable help and advice in the compilation of this list. I have presented the types of new species to the British Museum.

#### Family SYNTOMIDÆ.

Cosmosoma melathoracia, n. sp. (Plate V, fig. 10.)

Frons and collar bronze-green. Thorax with patagia and tegulæ, and abdomen black, the last with square-shaped spots above, of the same colour as the collar; except on first segment where TRANS. ENT. SOC. LOND. 1901.—PART II. (JULY) 9

they are replaced by two patches of brick-red. Forewing narrow, quite transparent in the median portion excepting the nervures which are clothed with black scales; the costa, inner area and lower half of outer margin with narrow borders of black; the discocellular patch and broad apical portion black. Hindwing similar, but with the costal marginal border very narrow.

Expanse 42 millim.

From Tabaquite. Taken in May 1898 (W. J. Kaye).

Cosmosoma Rubriscapulæ, sp. n. (Plate V, fig. 9.)

Frons bronze-green. Collar black, with only a few green scales. Thorax black; patagia and tegulæ vermillion-red. Abdomen black with lateral rows of square-shaped pea-green metallic spots on all the segments save the first which has two spots of the same colour as the tegulæ. Forewing rather broad, transparent; the veins prominently black; costa, inner margin and margin narrowly bordered with black; a large apical black patch and the lower half of outer margin with a broad band. Hindwing rather broad.

The wings of this species are more ample than in *C. melathoracia*. Expanse 44 millim.

Taken flying gently by day in Morrison Valley, beginning of July 1898 (W. J. Kaye).

Saurita cassandra, Linn., Syst. Nat., i, p. 494 (1768).

Saurita cassandra, Hmps., Cat. Lep. Phal., p. 274 (1898).

Range. Venezuela.

Specimens taken on flowers and at light in July 1898 (W. J. Kaye); also recorded by Capt. Clark.

Saurita lacteata, Butl., Ill. Het., i, p. 34, pl. 17.

Saurita lacteata, Hmps., Cat. Lep. Phal., p. 276 (1898).

Range. Amazon.

One specimen at light in May 1898, at Tabaquite. The type specimen in the Brit. Mus. N. H. is from Rio Jutahi, Amazons.

At Tabaquite (W. J. Kaye).

SAURITA TEMENUS, Stoll., Pap. Exot., iv, pl. 367. Saurita temenus, Hmps., l. c. p. 279.

Range. AMAZON.

Several specimens in May at Tabaquite (W. J. Kaye).

HISTICEA MELDOLÆ, Butl., Journ. Linn. Soc. Zool., xii, p. 362 (1876).

Histicea meldolæ, Hmps., l. c. p. 311.

Range. PANAMA; VENEZUELA.

This species was described by Butler from a Trinidad specimen.

HISTIGEA CEPHEUS, Cram., Pap. Exot., iii, pl. 109, E (1780).

Histiaa cepheus, Hmps., l. c. p. 313.

Range. VENEZUELA.

From Botanical Gardens (W. E. Broadway); also recorded by C. W. Ellacombe.

MACROCNEME LADES, Cram., Pap. Exot., i. pl. 83, E (1776).

Macrocneme lades, Hmps., l. c. p. 317.

Range. Mexico; Costa Rica; Venezuela; New Grenada; Amazon.

Specimens in National Collection (C. W. Ellacombe).

MACROCNEME THYRA, Möschl., Verh. Zool.-bot. Ges., Wien. xxxii, p. 334, pl. 18, f. 24 (1883).

Macrocneme thyra, Hmps., l. c. p. 321.

Range. AMAZONS; BOLIVIA.

Specimens in National Collection (Caracciolo).

MACROCNEME NIGRITARSIA, Hmps., l. c. p. 326.

Range. MEXICO; GUATEMALA.

Calonotos Tripunctata, Druce, A. M. N. H., (7) i, p. 401 (1898).

Calonotos tripunctata, Hmps., l. c. p. 335.

Range. Ignorus.

The type specimen was from Trinidad, and is in coll. Druce.

Poliopastea plumbea, Hmps., l. c. p. 337.

The type specimen is from Parantins, Lr. Amazon. From the Marval Valley (C. W. Ellacombe).

Dinia mena, Hüb., Samml. exot. Schmett., ii, (1827). Dinia mena, Hmps., l. c. p. 339.

Range. Throughout CENTRAL AMERICA; BRAZIL; VENEZUELA.

In National Collection (C. W. Ellacombe, Caracciolo).

TRICHURA CERBERUS, Pall., Spec. Zool. fasc., ix, p. 27, pl. 2, f. 8 (1772).

Trichura cerberus, Hmps., l. c. p. 342.

Range. Brazil, S. Paulo, Rio.

AETHRIA CARNICAUDA, Butl., Journ. Linn. Soc. Zool., xii, p. 400 (1876).

Range. Brazil, Rio.

From Botanical Gardens (J. H. Hart).

UROLASIA BRODEA, Schaus, J., N. Y. Ent. Soc., iv, p. 132 (1896).

Urolasia brodea, Hmps., l. c. p. 370.

Range. Ignorus.

The type from Trinidad is in coll. Schaus (W. E. Broadway).

Antichloris Eriphia, Fabr., Gen. Ins., p. 276 (1776).

Antichloris eriphia, Hmps., l. c. p. 400.

Range. Brazil; Amazon.

Botanical Gardens (W. E. Broadway, Caracciolo).

NAPATA WALKERI, Druce, A. M. N. H. (6) iv, p. 86 (1889).

Napata walkeri, Hmps., l. c. p. 407.

Range. Costa Rica; Panama; Mexico.

From Verdant Vale in Dec. 1895 (S. Kaye).

NAPATA BROADWAYI, Schaus, Journ. N. Y. Ent. Soc., iv, p. 130 (1896).

Napata broadwayi, Hmps., l. c. p. 413.

Range. Ignorus.

From Botanical Gardens (W. E. Broadway).

CYANOPEPLA SUBMACULA, Wlk., Cat. Het., i, p. 214 (1854).

Cyanopepla submacula, Hmps., l. c. p. 444.

Range. VENEZUELA; GUATEMALA; PANAMA.

One specimen at rest on a leaf of an Orange tree in the Botanical Gardens (W. J. Kaye).

ACLYTIA HEBER, Cram., Pap. Exot., iii, pl. 287, A (1780).

Aclytia heber, Hmps., l. c. p. 457.

Range. CENTRAL AMERICA; CUBA; GUIANA; BRAZIL.

EUCEREON CINCTUM, Schaus., Journ. N. Y. Ent. Soc., iv, p. 134 (1896).

Eucereon cinctum, Hmps., l. c. p. 486.

Range. AMAZON.

The type specimen was described from Trinidad Botanical Gardens (W. E. Broadway).

EUCEREON ROSINUM, Wlk., Cat. Het., i, 270 (1854).

Eucereon rosinum, Hmps., l. c. p. 492.

Range. VENEZUELA; MEXICO; BRAZIL, Rio.

Botanical Gardens (J. H. Hart).

EUCEREON HYALINUM, n. sp. (Plate V, fig. 11.)

Collar yellowish-red. Patagia ochreous-brown striped with black. Tegulæ black. Abdomen black; on the 5th, 6th and 7th segments are narrow bands of crimson, slightly obscured in the middle by the general colour of the abdomen. Forewing very dark blackish-brown with the veins somewhat lighter; on the outer margin, between veins 2, 3, and 3, 4, are buff-coloured spots, coalescing so as

to form a blotch; within each spot is an elongated black mark; in the middle of the cell is a large square patch of the same colour. Hindwing with the middle portion semi-transparent with a bluish tinge; a broad marginal black band widest at the anal angle.

Expanse 38 millim.

Taken at Verdant Vale in Dec. 1895 (S. Kaye).

EUCEREON LATIFASCIA, Wlk., vii, 1639 (1856).

Eucereon latifascia, Hmps., l. c. p. 498.

Range. CENTRAL AMERICA; VENEZUELA.

Verdant Vale in Dec. (S. Kaye).

EUCEREON MAIA, Druce, Biol. Cent. Am. Het., i, p. 86, pl. 9, f. 13 (1884).

Eucereon maia, Hmps., l. c. p. 499.

Range. Costa Rica.

At Tabaquite in April (F. W. Urich).

# Family ARCTIADÆ.

Subfamily LITHOSIANÆ.

Antona diffinis, Wlk., xxxi, 105 (1864).

Range. British Guiana; Brazil.

From Verdant Vale (S. Kaye).

THYONE MELANOCERA, Schaus, J., N. Y. Ent. Soc., vii, p. 217 (1899).

Range. Unknown.

In Schaus Coll. (W. E. Broadway).

CHIONOSIA APICALIS, sub. sp., Zell., Verh. Zool. Bot. Ges., Wien. xxiv, p. 424, pl. 12, f. l. (1874).

Range. Brazil.

In Schaus coll. (W. E. Broadway).

#### Subfamily ARCTIANÆ.

IDALUS DAGA, Dognin., Le naturaliste, 15 Mai (1891), p. 123.

Range. Ecuador.

From Verdant Vale in Dec. 1895 (S. Kaye).

EUPSEUDOSOMA INVOLUTUM, Sepp., Surin. Vlind., iii, t. 115 (1852).

Range. Brazil.

In the National Collection.

RHIPHA LAODAMIA, Druce, Biol. Cent. Am. Het., i, p. 90, n. 2. t. 9, f. 20 (1884).

Range. PANAMA.

In the National Collection.

MELESE INCERTUS, Wlk., Cat. Lep. Het., B. M. iii, p. 716 (1855).

Range. Brazil.

In the National Collection.

ECPANTHERIA ABSCONDENS, Oberth., Etudes d'Ent., vi, p. 106, t. 12, f. 7 (1881).

Range. MEXICO.

In the National Collection.

THALESA SERUBA, H. S., Ausser. Eur. Schmett., f. 280 (1855).

Range. MEXICO; AMAZONS.

In the National Collection.

Phægoptera Laudia, Druce, Proc. Zool. Soc. Lon. (1890), p. 497.

Range. VENEZUELA.

In the National Collection.

AGOREA PELLUCIDA, Sepp., (Bomb. P.) Surin. Vlind, ii, t. 76 (1848).

Range. Brazil; Grenada; Mexico; Guiana. Verdant Vale in Dec. 1895 (S. Kaye).

AMMALO CHRYSOGASTER, Wlk., (Hal. C.) Cat. Het., p. 312 (1864).

Range. MEXICO; COLOMBIA.

In the National Collection.

Deiopeia ornatrix, Linn., Syst. Nat., i, p. 511, n. 80 (1758).

Range. Central America; Venezuela; Brazil; West Indies; Ecuador.

Maraval Valley (C. W. Ellacombe).

# Family NOCTUIDÆ.

Euplexia Apameoides, Guen., Noct., i, p. 229.

Range. Bermuda; Jamaica; Brazil, S. Paulo.
In the National Collection.

EUPLEXIA SUTOR, Guen., Noct., i, p. 231.

Range. Brazil; Argentine; Barbadoes; Grenada.

In Coll. Kaye.

JUNCARIA UNICOLORATA, n. sp. (Plate V, fig. 21.)

Range. Colombia, Sta. Martha.

Forewing pale buff-coloured with some darker scales dispersed over the wing; discoidal spot small distinct black; a similar black spot lies wholly within the cell; margin with a series of black spots. Hindwing similarly coloured but without any darker scaling; the marginal black spots very distinct.

Expanse 32 millim.

Taken in May at Tabaquite (W. J. Kaye).

THYRIA AMŒNITA, Cram., pl. 312, f. D.

Range. S. America (? portion).

Tabaquite (W. J. Kaye).

PHRYGIONIS QUADRILINEA, n. sp. (Plate V, fig. 17.)

Forewing light ochreous shaded with darker pinkish-brown; three metallic blue stripes cross the wing from the costa to the inner margin, the first of these is succeeded and the second and third preceded by a dark brown line of which the first two run almost parallel, whilst the third stripe for a short distance before reaching the inner margin approximates to the metallic stripe; subterminal line silvery and barely reaching down to inner margin. Hindwing of same colour; the costal half paler with the apex black.

Expanse 30 millim.

At Verdant Vale (S. Kaye); Tabaquite (F. W. Urich). Range. AMAZONS, Gurupa (E. E. Austen).

DROBEDA SUBRUFESCENS, n. sp. (Plate V, fig. 14.)

Forewing pale brown; a large darker brown rectangular apical patch occupies almost one quarter the area of the wing, and is bounded by the vein enclosing the cell and the termination of vein 4 on outer margin; discoidal spot very indistinct not darker than the ground colour; indications of transverse lines are present on the costa the third of which is duplicated and darker. Hindwing unicolourous dark brown with somewhat of a coppery tinge.

Expanse 29 millim.

St. Verdant Vale in November (S. Kaye).

AEDIA TRINIDADENSIS, n. sp. (Plate V, fig. 3.)

Forewing with the basal half very dark brown terminated by a still darker broad stripe; about midway between the base and the dark stripe is a dark wedge-shaped mark running up from the inner margin; marginal half of wing grey suffused with lighter brown, the inner portion paler, at the extreme apex paler still. Hindwing pearly-white; costa dark brown; a very broad marginal blackish brown band; central spot black.

Expanse 30 millim.

Verdant Vale (S. Kaye); Tabaquite (F. W. Urich).

Note.—There is no other New World species in this genus, but the above appears to be congeneric with Aedia.

Homoptera viridans, Guen., vii, p. 13.

Range. Grenada; St. Domingo; Dominica.
In the National Collection.

XYLIS BIDENS, n. sp. (Plate V, fig. 1.)

Forewing much mottled with various shades of brown; on the inner margin close to base is a short pale tooth-like mark; near this mark is a short very dark brown line which starts broad and terminates sharply just before cell; from thence to the costa is a very much paler much serrated line; a short pale line starts on the costa just above angle of cell and terminates at vein 9 close to end of cell; a bold submarginal line traverses the wing and is deeply toothed between veins 3 and 4 and less so between veins 6 and 7. Hindwing very dark brown, broadly margined with pale mottled brown.

Expanse 43 millim.

At Tabaquite (W. J. Kaye).

Cœnipeta polynöe, Guen., vii, p. 31.

Range. Amazons.

Tabaquite (W. J. Kaye).

NOCTUA STRIX, Linn., Syst. Nat., iv, p. 833.

Range. Mexico; Brazil.

Botanical Gardens (J. H. Hart).

LETIS ALAUDA, Guen., vii, p. 154.

Range. PANAMA; AMAZONS.

Tabaquite (W. J. Kaye).

LETIS HERCYNA, Drury., ii, pl. 24, f. 1.

Range. Amazons; Panama; Jamaica.

Verdant Vale (S. Kaye); also in National Collection.

Letis Magna, Karsten., Mus. Lesk., p. 100-2, 291 (1789).

Range. Amazons.

In the National Collection.

LETIS MYCERINA, Cram., Pap. Exot., pl. 172, B.

Range. Panama; St. Domingo; Grenada; St. Lucia.

Verdant Vale (S. Kaye).

SYRNIA IPHIANASSE, Cram., pl. 172, A.

Range. Unknown.

Verdant Vale (S. Kaye); also in National Collection.

EREBUS ODORATUM, Linn., Syst. Nat., x, p. 505.

Range. St. Lucia; Jamaica; Brazil; Venezuela; British Guiana.

Botanical Gardens (J. H. Hart); also in National Collection.

# BARYDIA BICRISTATA, n. sp. (Plate VI, fig. 12.)

Forewing pale brown; first line very dark blackish-brown, very uneven in thickness and much indented, starting on the costa as a large somewhat squarish blotch, from thence to vein 1 a w is formed and thence to inner margin is another rather elongated blotch; second line showing only as faint traces hardly darker than the ground colour; third line just traceable in places, between veins 4 and 6 it is most prominent and again from 3 to inner margin; on the costa preceding the third line is a semicircular blotch of darker brown and a large roundish blotch is situated between veins 4 and 6. Hindwing paler brown with some black marks which form a line from anal angle for a short distance then merging into the ground colour of the wing; on the second and third segments of abdomen are well formed conspicuous crests, that on the second segment is much the larger and is double fan-shaped.

Expanse 67 millim.

At Tabaquite (W. J. Kaye).

There is a co-type in National Collection taken by Broadway in Trinidad.

BLOSYRIS HELIMA, var. rengus, Poey., Cent. Cub. (1832).

Range. St. Domingo.

In the National Collection.

PEOSINA LEONTINA, Stoll., pl. xxxiv, f. 6.

Range. Brazil.

In the National Collection.

# Dysgonia purpurata, n. sp. (Plate V, fig. 15.)

Forewing variously shaded with purple; first line crossing the wing obliquely and of unequal thickness, more prominent towards the costa, brownish-yellow; from apex there runs a very dark almost black much curved line which meets another short line curved from the costa; on the costa within this enclosed space are three or four faint yellow spots; there is a bold reverse curve to that which starts at apex, running to inner margin; on the inner side of this line is a very broad band of purple which almost reaches the first line near inner margin and which is most remote on costa. Hindwing very dark brown; the cilia from veins 1 to 7 pale grey, from 7 to costa unicolorous with the wing.

Expanse 67 millim.

From Verdant Vale (S. Kaye).

MELIPOTIS FASCIOLARIS, Hübn., Zutr., 443, 444.

Range. St. Domingo; Venezuela; Honduras; U.S.A., Brazil.

Botanical Gardens (W. E. Broadway).

HERMINODES ATROSIGNATA, Walk., Cat. Het., 15, p. 1641.

Range. PANAMA; VENEZUELA.

Tabaquite (W. J. Kaye).

# HERMINODES XANTHIPTERYGIA, n. sp. (Plate V, fig. 6.)

Forewing ochreous-yellow finely dusted with reddish scales especially over the basal half of the wing; discoidal blotch slightly darker than remainder of wing; there is a trace of a subterminal line indicated by three or four black dots, those between veins 4, 5; 5, 6; and 6, 7 are most distinct; there is also a row of well-defined subterminal dots.

Expanse 33 millim.

At Tabaquite in May (F. W. Urich).

# CATAMELAS FUSCA-PURPUREA, n. sp. (Plate V, fig. 20.)

Forewing dull brownish-purple with the markings rather indistinct, sharply incised below apex; the lines slatish-grey; basal line duplicated; median line sharply angled before middle; between these the orbicular stigma is larger and fairly distinct, the reniform stigma is very faintly outlined; the postmedian line also faintly indicated; beyond this a row of dots runs parallel. Hindwing with faint basal line and well-defined postmedian line, the discal stigma very large; the row of dots beyond the postmedian line not parallel to margin as in forewing.

Expanse 42 millim.

In National Collection.

# ACANTHOLIPES INCISURA, n. sp. (Plate V, fig. 18.)

Forewing grey rather suffused with a lilac tinge; close to the base of the costal margin is a triangularly shaped spot of purplish-black; a short way beyond there is another similarly coloured blotch and immediately below there is a round dot of the same colour lying wholly within the cell; beyond this is a yellowish line that runs across the wing starting on the costa as a dark mark and immediately forming a sharp tooth-like bend, from there to the inner margin it is fairly straight and inclines inwards cutting the inner margin almost at the centre; there is a row of terminal black dots; cilia scalloped.

Expanse 31 millim.

Tabaquite (W. J. Kaye).

Remigia Repanda, Fabr., Ent. Syst., iii, 2. p. 49 (1794).

Range. Brazil; Jamaica; Canada; Central Africa.

In the National Collection.

CELIPTERA HELVINA, Guen., vii, p. 307.

Range. Honduras; Colombia; Brazil.

Tabaquite (W. J. Kaye).

# CELIPTERA FUSCILINEATA, n. sp. (Plate V, fig. 5.)

Forewing brown with a slight reddish tinge; first line dark brown edged internally with reddish; median line replaced by two very faint indications of lines which run parallel to one another

across the wing; third line of same colour as first and succeeded by a row of black dots; the outer marginal portion of the wing lighter coloured than the rest. Hindwing almost unicolorous dull greybrown.

Expanse 37 millim.

At Tabaquite in June (W. J. Kaye).

APISTIS FELLEARIS, Hübn., Zutr., 379—380.

Range. VENEZUELA.

In the National Collection (W. E. Broadway).

APISTIS GUTTILUNA, Walk., xxxiii, p. 1078.

Range. Brazil.

Tabaquite (W. J. Kaye).

APISTIS EULALIA, Stoll., pl. xii, fig. 2.

Range. Brazil.

In the National Collection.

PLEONECTIPTERA PANCULA, Wlk., Cat. Het., xv, p. 1838.

Range. HONDURAS; GRENADA.

Tabaquite (W. J. Kaye); also in National Collection.

Bendis formularis, Hübn., Zutr. H., 903, 904.

Range. Jamaica; St. Domingo; St. Vincent; Honduras; Dominica.

Tabaquite (W. J. Kaye); also in National Collection.

AMPHIGONIA POSTPONENS, Wlk., xv, p. 1856.

Range. GRENADA; BRAZIL.

Tabaquite (W. J. Kaye).

MARTHAMA SQUAMIVARIA, Wlk., xv, p. 1631.

Range. Brazil; Panama.

Tabaquite (W. J. Kaye).

#### Genus Parvapenna, nov.

Type, P. sentalis.

Proboscis well developed, rather short; palpi porrect, extending beyond from about the width of the collar, heavily scaled with the third joint very short and naked just appearing out of the heavy scaling of the second joint; antennæ boldly pectinated to tip. Forewing narrow, the costa almost straight, the termen slightly rounded; vein 3 well before angle of cell, 5 nearer 4 than 6, 8 and 9 stalked. Hindwing with vein 8 anastomosing with 7 well beyond base, 7 from upper angle of cell. Fore tibiæ with well developed spurs.

# PARVAPENNA SENTALIS, n. sp. (Plate VI, fig. 7.)

Forewing pinkish-ochreous with two apical streaks, the inner one is the darker and wider of the two and terminates at less than one-third from base; the outer one commences slightly below the extreme apex and terminates at less than two-thirds from base; a minute discoidal spot and a second similar spot near the inner angle of the cell; a row of minute dots precedes the somewhat yellowish subterminal line. Hindwing cream-coloured with a row of marginal dots. Underside of forewing dusky.

Expanse 22 millim.

Taken in May at Tabaquite (F. W. Urich).

Range. PANAMA.

DAGASSA JARRUANA, Butl., Trans. Ent. Soc. Lond., p. 66 (1879).

Range. Amazons.

Tabaquite; also in National Collection (W. J. Kaye).

#### ORSA PERUSTA, n. sp. (Plate V, fig. 22.)

Forewing very dark black-brown; the first line and the elbowed line form the margins of an even darker fascia; immediately within the first line is a small inconspicuous dark ring; the large discoidal-blotch is ochreous-brown and is present in some individuals only; beyond the elbowed line is a very indistinct slatish coloured serrated line; in the marginal portion of the wing are some varying patches

of dark ochreous-brown. Hindwing as forewing with only a trace of a first line.

Expanse 30 millim.

Types in National Collection.

Range. AMAZONS.

# ORSA MULTUSTA, n. sp. (Plate V, fig. 16.)

Forewing ochreous-yellow finely dusted with reddish scales especially over the basal half; discoidal blotch slightly darker than rest of wing; there is a trace of a subterminal line indicated by three or four black dots, those between veins 4, 5; 5, 6, and 6, 7 are most distinct; there is also a row of well-defined subterminal dots.

Expanse 33 millim.

At Tabaquite in May (F. W. Urich).

# ORSA TENUATA, n. s.p. (Plate VI, fig. 26.)

Forewing very pale yellowish-brown with the markings darker; a pale well-defined fascia traverses the wing and includes the darker-coloured yellowish-brown discoidal spot, which appears somewhat rectangular; the outer line that borders the fascia very much serrated and partly duplicated in the upper portion; towards the inner margin there is a patch of darker colour; in the marginal portion of the wing are some scattered darker markings, but not sufficient to suffuse the ground colour of wing. Hindwing similar to forewing.

Expanse 21 millim.

Type in National Collection from Trinidad.

CAPNODES CONCINNULA, Wlk., xxxiii, 1074 (1865).

Capnodes distacta, Hmpsn., Trans. Ent. Soc., 1898, p. 254, pl. 17, f. 19.

Range. Dominica; Grenada; Brazil, Rio Janeiro. In the National Collection.

CAPNODES LAMIDA, Druce, Biol. Cent. Amer. Het., i, p. 399, pl. xxxiii, f. 10.

Range. GUATEMALA; PANAMA; ECUADOR.

In coll. Druce.

MASSALA SOBRIA, Wlk., xxxiii, p. 1045.

Range. PANAMA.

In National Collection.

HOMOPYRALIS PARVIQUADRATA, n. sp. (Plate V, fig. 13.)

Forewing deep black-brown with a violet tinge; from base to two-thirds the length of costa ochreous-yellow; a large brownish-black patch close to base commencing immediately below costal stripe and terminating on inner margin; at less than two-thirds from base is another elongated rectangular dark patch commencing just before the termination of the costal stripe; following this are four or five distinct white dots. Hindwing dull dark brown; at the anal angle are two dark and one pale short yellowish lines.

Expanse 19 millim.

At Tabaquite in June (W. J. Kaye).

HOMOPYRALIS DOTATA, Wlk., xiii, p. 1067.

Range. PANAMA; BRAZIL.

Tabaquite (W. J. Kaye).

YRIAS YPSILON, Butl., Trans. Ent. Soc. (1879), p. 64.

Range. AMAZONS.

Tabaquite (W. J. Kaye).

MACRODES GYGES, Cram., pl. 102, fig. B.

Range. VENEZUELA.

In National Collection.

MACRODES CYNARA, Cram., pl. 15, figs. C and D.

Range. JAMAICA; BRAZIL.

In National Collection.

MACRODES COLUMBALIS, Guen., Delt. and Pyr., p. 14.

Range. VENEZUELA; BRAZIL.

Verdant Vale (S. Kaye).

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#### Subfamily DELTOIDINÆ.

RENIA MÆRA, Druce, Biol. Centr. Am. Het., i, p. 448, pl. xxxvi, f. 22, 23.

Range. PANAMA.

Tabaquite (W. J. Kaye); also in National Collection.

RENIA DISCOLORALIS, Guen., Delt. and Pyr., p. 82.

Range. U. S. A.

Tabaquite (W. J. Kaye).

RENIA SOBRIALIS, Wlk., xvi, p. 228.

Range. U. S. A.; Nova Scotia.

Tabaquite (W. J. Kaye).

MEGATOMIS ANTONIA, Druce, Biol. Centr. Am. Het., i, p. 468.

Range. Mexico.

Tabaquite (W. J. Kaye).

# MEGATOMIS CYANOLEPIA, n. sp. (Plate V, fig. 19.)

Forewing dark brown with a slight purplish tinge; a white dot at base and another smaller bluish-white dot lying wholly within the cell; a post-median slightly darker almost straight line with a few bluish scales near the inner margin; discoidal mark reniform in outline and margined with bluish scales; marginal area of wing slightly paler. Hindwing unicolorous dull blackish-brown. Collar ochreous; patagia purplish-brown. Abdomen, 1st segment with yellowish hairs; 2nd segment with a dark chocolate patch above with a few blue scales.

Expanse 30 millim.

From Verdant Vale (S. Kaye).

Aторомогрна singularis, Warren, Trans. Ent. Soc. Lond., 1889, p. 253.

Range. AMAZON.

Tabaquite (W. J. Kaye).

MEGACHYTA PRIASSALIS, Wlk., xvi, p. 123.

Range. GRENADA; ST. LUCIA; DOMINICA; ST. VINCENT; PANAMA.

Tabaquite (W. J. Kaye).

HIPŒPA BOGUSALIS, Wlk., xix, p. 863.

Range. Brazil.

Tabaquite (W. J. Kaye).

BIBACTA GRISEIRENA, Hmpsn., Trans. Ent. Soc. Lond., 1898, p. 255.

Range. WEST INDIES; PANAMA.

Tabaquite (W. J. Kaye).

# HYDRILLODES TOTAFUSCA, sp. n. (Plate V, fig. 4.)

Forewing unicolorous dull blackish-brown; ante-medial and post-medial lines dull fawn colour the latter much serrated; a row of inconspicuous marginal black dots; cilia unicolorous with wing. Hindwing of the same colour as forewing without any markings, the veins show through rather prominently. On the underside the forewing is considerably lighter the ante-medial line clearly trace-able and the post-medial conspicuous only on costa where there is a considerable yellowish spot; about the costal area is a sprinkling of greyish scales. The hindwing on the underside is paler with greyish scales all over; a conspicuous brown discoidal spot and two ill-defined brownish fasciæ beyond the middle of the same colour. Head, palpi, thorax and abdomen unicolorous dull brown above and below.

Expanse 28 millim.

In National Collection (J. H. Hart).

# ZANCLOGNATHA BIPUNCTATA, n. sp. (Plate VI, fig. 1.)

Forewing dirty greyish-brown with faintly darker markings; discoidal spot distinct, black with a minute black dot just above it; a subterminal line can be discerned as a series of faint greyish dots; the margin with a row of black dots which are most conspicuous about the centre and least so near tornus. Hindwing slightly darker than forewing with a broad rather paler marginal band; some marginal dots just traceable as triangular marks. On

the underside the forewing is slightly paler, the discoidal spot discernible, the minute dots invisible. Hindwing considerably paler with two post-medial brownish strongly scalloped fasciæ, within the outer fascia lies a whitish scalloped line; discoidal spot just traceable. Thorax and abdomen above unicolorous with wings.

Expanse 35 millim.

Tabaquite (W. J. Kaye).

BLEPTINA THERSALIS, Wlk., xvi, p. 243.

Range. West Indies; Venezuela.

In National Collection.

TORTRICODES AMBIGUALIS, Wlk., xxxiv, p. 1198.

Range. North America.

Tabaquite (W. J. Kaye).

TORTRICODES LEUCORABDOTA, n. sp. (Plate VI, fig. 3.)

Forewing leaden-coloured tinged with greyish-brown with two straight well-defined whitish bands across the wing, the first antemedial and the second post-medial, the space between them slightly darker than the rest of wing; about midway between the post-medial line and the outer margin is a row of small yellowish dots. Hindwing from the base to beyond the cell with a broad white band running obliquely across the wing; the dark discoidal spot shows faintly through from the underside where it is conspicuous; the broad margins of the same colour as the marginal portion of the forewing.

Expanse 23 millim.

Taken in June at Tabaquite (W. J. Kaye).

HYPENA OBDITALIS, Wlk., xvi, p. 48.

Range. HONDURAS; AMAZONS; GRENADA.

Tabaquite (W. J. Kaye).

Paramimetica phtisialis, Guen., Delt. and Pyr., p. 87.

Range. St. Domingo; Brazil.

Tabaquite (W. J. Kaye).

# PARAMIMETICA FUSCIRETICULATA, n. sp. (Plate VI, fig. 5.)

Forewing brown, much netted with paler yellowish-brown; first line straight, well-defined and oblique; elbowed line reaching its greatest bend at vein 6; orbicular stigma round, distinct and margined with paler; reniform stigma large, distinct and touching orbicular; subterminal line slender very much indented; marginal spots darker brown, elongated and hardly separately detached. Hindwing similar to forewing; discoidal stigma slightly larger than that in forewing and very distinct; cilia brown, scalloped, within the scallops greyish.

Expanse 23 millim.

At Tabaquite in June (W. J. Kaye).

# PHYSULA NOVITATA, n. sp. (Plate VI, fig. 8.)

Forewing ochre-yellow; first line much curved and composed of a number of dots; medial line angled before middle; discoidal spot elongated, black and almost touching the medial line at the angle; third line distinct, much angled at veins 4 and 2; marginal area darker, darkest before middle and at tornus. Hindwing altogether darker, with two transverse lines, the first of which starts from the discoidal spot, which is fairly distinct, and almost as dark as that in forewing; costa dusky brown.

Expanse 24 millim.

In National Collection.

# SANDASA MICRASTIGMA, n. sp. (Plate VI, fig. 21.)

Forewing greyish-brown shaded with purplish towards the margins; first line slightly angulated, dark brown, distinct. Medial fascia slightly darker than ground colour, sharply angled just above the dark conspicuous discoidal spot which lies wholly within the fascia; at the extreme apex of wing is a small dark dot which is sometimes wanting. Hindwing very similar to forewing with a conspicuous excision between veins 3 and 4; the discoidal spot lies on the inner edge of the medial stria and not within it as in the forewing.

Expanse 14 millim.

Range, PANAMA.

In June at Tabaquite (W. J. Kaye). The co-type from Panama is in the National Collection.

MASTIGOPHORA LYSIZONA, Druce, Biol. Cent. Am. Het., i, p. 441.

Range. Brazil, Thersapolis.

Tabaquite (W. J. Kaye).

Palthis bizialis, Wlk., xix, p. 865.

Range. GRENADA.

In National Collection.

# Family HYPSIDÆ.

LAURONA LEUCOPHÆA, Wlk., Cat. Het., ii, p. 334.

Range. VENEZUELA; BRAZIL.

In National Collection.

HYALURGA FENESTRATA, Wlk., Cat. Het., iv, p. 916.

Range. Brazil, Rio.

In National Collection (Broadway).

Phalöe Lorzae, Boisd., Lép. Guat., p. 90 (1870).

Range. VENEZUELA.

In National Collection (Caracciolo).

Pericopis aglaura, Cram., Pap. Exot., iii, i, 26, pl. 263, f. F.

Range. VENEZUELA.

(W. J. Kaye.)

#### Family NOTODONTIDÆ.

APELA DIVISA, Wlk., Cat. Het., v, p. 1092 (1855).

Range. Ignorus.

Verdant Vale (S. Kaye); Tabaquite (F. W. Urich). Hampson has included this in his Moths of India, vol. i, p. 168, Walker having given N. India as the locality for the species.

Hemiceras modesta, Butl., Trans. Ent. Soc. Lond., 1878, p. 69.

Range. Costa Rica; Amazons. Tabaquite (W. J. Kaye).

Nystalea nyeus, Cram., Pap. Exot., i, t. 75, E (1775).

Range. Surinam; Panama; Lesser Antilles.

Verdant Vale (S. Kaye).

NYSTALEA CALOPHASIOIDES, n. sp. (Plate V, fig. 2.)

Forewing short, variously dashed with brown and dull red, the basal area palest; a marginal band occupies about one-sixth of the wing, interiorly it is reddish and forms two curves remote from base, marginally it is dull brown becoming paler towards the tornus where there are some pale indistinct wavy lines running upwards; in the lower curve of the band two dark wedge-shaped marks arise and run inwards, the lower one being much the larger; on the extreme margin is a much waved line; the inner margin of the wing except at the base is uniform brown; the cross vein of the discoidal cell is clothed with whitish scales which have a raised appearance. Hindwing dull brown of the same colour as the inner margin to forewing; the medial portion paler.

Expanse 33 millim.

In National Collection (J. H. Hart).

HAPIGIA OBLIQUA, Walk., Cat. Lep. Het., p. 766.

Range. Ignorus.

Verdant Vale (S. Kaye).

The remarks under Apela divisa apply also to this species.

HAPIGIA RIBBEI, Druce., Biol. Cent. Am. Het., i, p. 244, Pl. 25, f. 8.

Range. MEXICO; PANAMA; AMAZONS.

Verdant Vale (S. Kaye).

HETEROCAMPA EPONA, Schaus., Proc. Zool. Soc. Lond., May 1892, p. 335.

Range. PERU.

In Coll. Schaus. (W. E. Broadway).

ROSEMA DEOLIS, Walk., v, p. 1170 (1855).

Range. Central America; Brazil.

Verdant Vale (S. Kaye).

# Family SPHINGIDÆ.

Subfamily AMBULICINÆ.

AMBULYX STRIGILIS, Linn., Mant. Plant., p. 538 (1771).

Range. South America; West Indies.

Botanical Gardens (J. H. Hart).

#### Subfamily CHEROCAMPINÆ.

CHEROCAMPA TYNDARUS, Boisd., Hist. Nat., p. 264, t. 4, f. 5 (1875).

Range. VENEZUELA; MEXICO. In National Collection (Capt. Clark).

CHŒROCAMPA NEOPTOLEMUS, Cram., Pap. Exot., iv, Pl. 301, f. F.

Range. Central America; Venezuela; Brazil. Botanical Gardens (W. E. Broadway).

CHŒROCAMPA TERSA, Linn., Mant. Plant., p. 538 (1771).

Range. CENTRAL AMERICA; WEST INDIES; BRAZIL.

(C. W. Ellacombe.)

ANCERYX SCYRON, Stoll., Pap. Exot., iv, Pl. 301, E. (Plate V, fig. 12.)

Forewing burnt-brown with somewhat of a greyish tinge; between veins 1, 2; 2, 3; and 3, 4 are blackish streaks situated well within the wing and not extending to the outer margin; the veins towards the margin are rendered conspicuous with greyish scales; between veins 4 and 6 the ground colour of the wing is less irrorated, becoming more so again towards the margin. Hindwing clear yellow with a narrow black border which stops short of the tornus; cilia with some white spots at the extremities of the nervures. Patagia

warm brown with the margins finely edged with darker. Abdomen with the bases of the segments broadly grey, the upper portion almost black; the first two segments with bunches of long hair on the central dorsal portion; a broad brownish dorsal grey band extends to the anal segment; on the underside creamy-white with some fine pinkish scales.

Expanse 70 millim.

Range. VENEZUELA; CAYENNE.

Port of Spain (Caracciolo).

#### Subfamily SPHINGINÆ.

PROTOPARCE RUSTICA, Fabr., Syst. Ent., p. 540, n. 15 (1775).

Range. TROPICAL and SUB-TROPICAL AMERICA.

In Coll. Druce.

PROTOPARCE OCHUS, Klug., Neue Schmett., t. 3, f. 2 (1836).

Range. Mexico; Honduras.

Botanical Gardens (J. H. Hart).

PROTOPARCE PAPHUS, Stoll., Pap. Exot., iii, t. 216, B (1779).

Range. GUIANA; BRAZIL; BARBADOS.

In Coll. Schaus. (W. E. Broadway).

PSEUDOSPHINX TETRIO, Linn., Mant. Plant., p. 538 (1771).

Range. TROPICAL AMERICA; WEST INDIES.

St. Ann's Valley (W. J. Kaye).

DILUDIA FLORESTAN, Stoll., Pap. Exot., iv, t. 894, B (1782).

Range. Brazil.

Tabaquite (W. J. Kaye).

DILOPHONOTA ELLO, Linn., Syst. Nat., i, p. 491, n. 11 (1758).

Range. CENTRAL and S. AMERICA.

Botanical Gardens (W. E. Broadway).

#### Subfamily MACROGLOSSINÆ.

Enyo Gorgon, Cram., Pap. Exot., ii, t. 142, E.

Range. Tropical and Sub-Tropical America.

Botanical Gardens (W. E. Broadway).

ENYO LUGUBRIS, Linn., Mant. Plant., p. 537 (1771).

Range. Tropical and Sub-Tropical America; West Indies.

Port of Spain (W. J. Kaye).

Eupyrrhoglossum ceculus, Cram., Pap. Exot., ii, t. 146, G (1777).

Range. Central America; Brazil. In Coll. Kaye (C. W. Ellacombe).

ÆLLOPUS SISYPHUS, Burm., Sphing. Braz., p. 17 (1855).

Range. Brazil.

In Coll. Schaus.

#### Family SATURNIADÆ.

ARSENEURA ERYTHRINÆ, Hübn., Verz. Schmett., 156 (1632).

Range. Guatemala; Brazil; Costa Rica; Venezuela.

Verdant Vale (S. Kaye).

Attacus Hesperus, Linn., Syst. Nat., i, p. 495 (1758).

Range. Brazil; Guatemala.

Botanical Gardens (J. H. Hart).

ATTACUS ERYCINA, Shaw, Nat. Misc., vi, t. 230 (1797).

Range. Brazil; St. Vincent; West Indies.

In the National Collection.

AUTOMERIS IRENE, Cram., Pap. Exot., iii, t. 249.

Range. Columbia; Brazil.

In the National Collection.

AUTOMERIS ERISICHTON, Boisd., Ann. Soc. Ent. Belge., xviii, p. 218 (1875).

Range. VENEZUELA.

Verdant Vale (S. Kaye).

Note.—The two specimens from Trinidad have the first line extra-angulated near the costa and also more excurved near the inner margin. In view of the fact that there is only a single specimen in the National Collection for comparison it seems undesirable to describe another species on account of this.

AUTOMERIS OBLONGA, Wlk., vi, p. 1296 (1855).

Range. Grenada; West Indies; Colombia.

In the National Collection.

AUTOMERIS JANUS, Cram., Pap. Exot., i, t. 64, A, B (1775).

Range. MEXICO; HONDURAS; GUATEMALA.

In the National Collection.

MOLIPPA SABINA, Wlk., Cat. Het., vi, p. 1345 (1855).

Range. MEXICO; BRAZIL.

In the National Collection.

DIRPHIA SPECIOSA, Cram., Pap. Exot., t. 107, B (1779).

Range. British Guiana; Brazil.

In the National Collection.

Ormiscodes Ægis, Cram., Pap. Exot., i, t. 30, F. (1775).

Range. MEXICO; BRAZIL.

Verdant Vale (S. Kaye).

ORMISCODES AVIA, Stoll., Pap. Exot., iv, pl. 307, A (1780).

Range. Unknown.

In the National Collection.

# Family CERATOCAMPIDÆ.

CITHERONIA MEXICANA, Grote and Rob., Ann. Lyc. Nat. Hist. N. York, viii, p. 382, t. 13, f. 1.

Range. MEXICO.

Maraval Valley (W. J. Kaye).

The occurrence of this species is remarkable, there can hardly be a doubt as to its identity.

CITHERONIA MAGNIFICA, Wlk., Cat. Het., vi, p. 1373 (1855).

Range. Brazil; Nicaragua; Mexico.

In the National Collection.

# Family EUPTEROTIDÆ.

# APATELODES BASIFULVA, n. sp. (Plate VI, fig. 17.)

Forewing yellow, much dusted with fulvous; first line and post-medial line darker, well defined, the post-medial much angulated at vein 5; discoidal spot distinct; between the first line and base the portion is filled up with irrorated fulvous, and within the patch is a faint indication of another line parallel with that forming the termination of the darker patch; margins paler with a well-defined scalloped marking traversing the sub-marginal area of the wing; immediately before the apex is a small darker patch extending down to vein 5. Hindwing paler yellow with medial line, darker near the discoidal cross vein, the two lines uniting at the lower angle of the cell.

Taken in June (W. J. Kaye).

There is a co-type in National Collection.

#### TARCHON CUPREA, n. sp. (Plate VI, fig. 11.)

Forewing shining coppery-brown; between veins 6 and 7, close to margin of wing, is an elongated cream-coloured mark; discoidal spot darker than ground colour and shaped somewhat triangularly; a faint indication of a line runs beyond the middle from the costa to inner margin, in the  $\mathcal{J}$  this is nearly straight from vein 4, but in the  $\mathcal{L}$  is considerably less so; from the costa to vein 4 in both sexes the line is indented. Hindwing of the same colour with a

slightly darker central band followed by a fairly distinct line which forms a continuation of the line of the forewing.

Expanse 52-60 millim.

Taken by J. H. Hart.

There are six specimens in the National Collection from which the description is derived.

#### Family GEOMETRIDÆ.

Subfamily BOARMIINÆ.

ŒNOTHALIA PERRUBRA, n. sp. (Plate V, fig. 8.)

Forewing deep rich mahogany-red with two somewhat lighter small patches between veins 1, 2 and 4, 5, immediately above which, situated on the vein itself, is a small yellow dot; a similar dot is placed on vein 1 about midway from base; the costa broadly pale cream-coloured much irrorated with black but the extreme tip is unspotted, the pale stripe stretches across the thorax and collar and is there also unspotted; two not very decided streaks of purplish traverse the wing about the middle. Hindwing unicolorous with forewing; a paler short streak runs up from the outer margin between veins 4 and 6; situated between veins 2, 3 and 3, 4 are respectively two small round black dots placed a short distance from the margin.

Expanse 50 millim.

From Verdant Vale (S. Kaye).

CHRYSOCESTIS FIMBRIARIA, Cram., Pap. Exot., iv, 112, pl. 348, f. C.

Range. Amazons; Honduras; Columbia.

(F. W. Urich.)

Phrygionis privignaria, Guen., Uran. and Phal., i, p. 401.

Range. HONDURAS.

In National Collection.

Semiothisa transvisata, Guen., Uran and Phal., ii, p. 71. Range. Brazil; Panama.

Tabaquite (W. J. Kaye), also in National Collection.

SEMIOTHISA ÆMULATARIA, Wlk., xxiii, p. 884.

Range. Texas; Florida; Washington State.

In National Collection.

The specimen is considerably worn. It is probable from the range of S. æmulataria that this is another species.

SEMIOTHISA LIMBULARIA, Hübn., Zutr., p. 179, 180.

Range. JAMAICA.

In National Collection.

Semiothisa arenisca, Dogn., Ann. Soc. Ent., Belgique, tom. xiv, 1896, p. 145.

Range. ECUADOR.

Arima (S. Kaye).

FLAVINIA OSIRIS, Cram., Pap. Exot., ii, 28, pl. 115, f. E. Range. VENEZUELA.

Maraval Valley (C. W. Ellacombe).

SYRRHODIA DECREPITARIA, Hübn., Samml. Exot. Schmett., ii, 29, 186 ff. 371, 372.

Range. Brazil; St. Domingo; Honduras; St. Vincent.

(W. E. Broadway.)

Drepanodes trogonaria, H. S. Auss. Sch., T. 94, f. 535.

Range. Brazil.

From Verdant Vale (S. Kaye).

PARACHOREUTES SUBPURPUREA, Warr., Nov. Zool., iv, p. 417 (1897).

Range. RIO DEMERARA; BRITISH GUIANA.

From Tabaquite (W. J. Kaye).

PATALENE ACUTA, n. sp. (Plate VI, fig. 13.)

Forewing rich ochreous, darker towards tornus and considerably irrorated with blackish; an oblique slightly curved darker line commencing just before apex traverses the wing and terminates beyond the middle on the inner margin; situated on this line are placed at intervals small elongated dots of greyish-white; a large conspicuous blotch occupies the area at tornus; there is a faint indication of a darker ante-medial line; discoidal dot small, black; hindwing similar to forewing, the pale dots on the transverse line less distinct than on forewing; beyond the medial line the wing is much darker with more of a brownish tint similar in shade to tornus of forewing. Underside of both wings paler and darker towards the hind margins; the transverse line on the forewing very distinct; on the hindwing the line is almost obliterated.

Expanse 43 millim.

In National Collection, taken by Lady Broome.

APICIA ALTERARIA, Guen., Uran. and Phal., i, p. 83.

Range. VENEZUELA.

From Verdant Vale (S. Kaye).

MUCRONODES MINOA, Druce, Biol. Centr. Am. Het., ii, p. 47, t. 44, f. 17.

Range. PANAMA.

(W. J. Kaye.)

AZELINA EXQUISITATA, Thierry-Mieg., Ann. Soc. Ent. France, 1894, p. 57.

Range. ECUADOR.

From Arima (S. Kaye).

THYSANOPYGA APICITRUNCARIA, H. S. Auss. Schmett., f. 536.

Range. URUGUAY; PANAMA; St. DOMINGO; VENEZUELA.

From Tabaquite (W. J. Kaye).

THYSANOPYGA NICETARIA, Guen., Uran. and Phal., ii, p. 107.

Range. HAITI.

From Arima (S. Kaye).

BISTON OPPOSITARIA, Wlk., Cat. Lep. Het., xxi, p. 361.

Range. Venezuela.

From Verdant Vale (S. Kaye).

GAZENA HYPOMELAS, n. sp. (Pl. VI, fig. 18.)

Forewing greenish-grey strongly irrorated with blackish and having the appearance of lichen; an ante-medial darker fascia tinged with pinkish towards the inner margin and bordered by a fairly distinct black line which is strongly elbowed within the cell; a second similar fascia without any pinkish coloration commences on costa equidistant from base and apex and after curving out beyond the cell reaches the inner margin at half distance from base as on costa; beyond is a dotted line almost following the curve of the fascia but rather more remote on costa; radiating from these dots are some blotches of pink; on the margin there is a distinct row of black dots; discoidal spot blackish. Hindwing similar in coloration and markings to forewing but without any trace of markings; discoidal spot very distinct, black.

Expanse 35 millim.

From Verdant Vale (S. Kaye).

MELANCHROIA EXPOSITATA, Wlk., Cat. Lep. Het., xxv, p. 1461.

Range. Tropical America; West Indies. Botanical Gardens (J. H. Hart).

#### Subfamily ACIDALIANÆ.

JORRHŒA PYRAUSTARIA, Guen., Phal., i, p. 429 (1857).

Range. Brazil; St. Vincent (W.I.).

(W. J. Kaye; F. W. Urich.)

HYRIA DEPORTARIA, Wlk., xxii, p. 673.

Range. Venezuela.

(F. W. Urich.)

APICIA ALTERARIA, Guen., Uran. and Phal., i, p. 83.

Range. CAYENE.

Verdant Vale (S. Kaye).

#### Subfamily GEOMETRINÆ.

CHLORINTHIA PULCHERRIMA, Butl., Trans. Ent. Soc., 1881, p. 342.

Range. AMAZON.

Verdant Vale (S. Kaye).

GELASMA HYPERYTHRARIA, Guen., Uran. and Phal., i, p. 386.

Range. Brazil.

Tabaquite (F. W. Urich).

ŒNOSPILA TENUILINEA, n. sp. (Plate VI, fig. 16.)

Forewing rather dull grass-green; a whitish slightly curved basal line and a very greatly festooned post-medial whitish line, the apices of the festoons prominently white; discoidal spot blackish; cilia yellowish-white barred with pale brownish but not conspicuously so; the extreme edge of the costa satiny-white. Hindwing as forewing but the discoidal spot much less conspicuous. Antennæ with the shaft white.

Expanse 34 millim.

From Tabaquite (W. J. Kaye).

# DICHORDA URICHA, n. sp. (Plate VI, fig. 6.)

Forewing unicolorous pea-green. Hindwing at the extreme base green, followed by a broad area of lemon-yellow which runs up into the end of the cell; lying wholly within the cell is a very small reddish-brown blotch; bordering the irregularly shaped yellow patch the colour is a dull purplish-red and rather suffused; an irregular somewhat cross-shaped patch of yellow is situated beyond the cross vein of the cell; the broad marginal portion of the wing green as in the forewing; fringes to both wings pale greenish without any spots whatever.

Expanse 20 millim.

Tabaquite (F. W. Urich).

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RACHEOSPILA SIGILLARIA, Guen., Uran. and Phal., i, p. 375.

Range. Dominica; Brazil.

Tabaquite (W. J. Kaye).

RACHEOSPILA EXPULSATA, Wlk., Cat. Lep. Het., xxii, p. 566.

Range. AMAZON.

Tabaquite (W. J. Kaye).

# RACHEOSPILA UNDULOSA, n. sp. (Plate VI, fig. 23.)

Forewing very delicate pale green; costa white; very slender much waved ante- and post-medial indistinct white lines; discoidal spot a minute black dot. Hindwing precisely as forewing; cilia to both wings white, preceded by a very slender reddish line. Abdomen with four or five distinct white patches.

Expanse 17 millim.

Tabaquite (W. J. Kaye).

# HETEREPHYRA SUBRUBRA, n. sp. (Plate VI, fig. 19.)

Forewing brick-red, sometimes with a brownish tinge, with the transverse lines darker; the basal line slightly waved; the medial line strongly angulated at vein 2; the space between these two lines slightly darker; the post-medial line very much waved, the wing beyond this being again darker; lying within this latter space are several indistinct whitish dots edged internally with obscure blackish; discoidal spots white edged internally with black; the underside much paler with only the post-medial line showing. Hindwing above similar to forewing; the discoidal spot wholly black and lying either within, without, or on a feebly defined blackish line; the post-medial line much indented near anal angle, and also in a less degree nearer costa, but very variable.

Expanse 28 millim.

From Tabaquite (W. J. Kaye).

#### Subfamily LARENTIANÆ.

# PSALIODES ACIDALIOIDES, n. sp. (Plate VI, fig. 9.)

Forewing brownish cream-coloured; very near the base is a black line most conspicuous on the costa; a broad blackish fascia strongly angulated at the origin of vein 4 internally, and rather less so externally on vein 6; between the costa and these two points the band is much the widest and best defined; discoidal dot black; a dark cream patch on the costa beyond the fascia; some dark blackish suffusion towards outer margin. Hindwing similar; a broad basal fascia composed of several black-irrorated lines; no dusky suffusion on margin.

Expanse 15 millim.

In National Collection (J. H. Hart).

#### GEN. ARIMA, nov.

Proboscis well developed; palpi porrect, the 3rd joint to well beyond frons, half as long as 2nd and naked; 2nd joint clothed with stiff hair. Antennæ simple, rather short, barely longer than half costa; hind tibiæ with short spurs. Abdomen in ♀ not reaching beyond secondaries. Forewing with veins 3, 4 from angle of cell, vein 3 almost straight; vein 5 equidistant from 4 and 6; 8 and 9 and 10 given off from 7; vein 5 extending into cell as a veinlet; a slight fold in the wing between 4 and 5; a branch veinlet within the cell coincides with this fold at cross vein of cell. Hindwing, vein 2 from <sup>2</sup>3rds from base of cell; 3 before end of cell; 4 from angle; 6 and 7 on a long stalk; 8 soon after leaving base anastomoses with 7 for a considerable distance.

#### ARIMA ISOLATA, sp. n. (Plate VI, fig. 25.)

Forewing lightish olive-green with black markings; four tolerably well-defined lines traverse the wing; the basal line considerably angled in middle; second line composed of a costal patch, a somewhat elongated mark lying within the cell and an ill-defined patch on the inner margin; situated between this line and the post-medial line on the costa is a well-defined black mark; the post-medial line, clearly defined on costa, very slender, composed of dark dots to vein 2 and thence to inner margin with an irregular patch of black; a fourth line commences with three distinct spots and then by an indefinite number of marks is continued to the inner margin; discoidal spot black, elongated. Hindwing orange-yellow with a rather narrow grey marginal band, the orange colouring continued to margin between veins 3 and 4. Underside of both wings orange; a large blackish patch at apex of forewing.

Expanse 30 millim.

From Verdant Vale (S. Kaye).

Subfamily ENOCHROMINÆ.

EPHIALTIAS TRYMA, Schaus., Jour. N.Y. Ent. Soc., iv, p. 154.

Range. Amazons.

Maraval Valley (C. W. Ellacombe).

MECOCERAS NITOCRIS, Cram., Pap. Exot., iii, 148, pl. 275, f. A.

Range. Brazil; Venezuela; Central America.

In National Collection (Lady Broome); Verdant Vale (S. Kaye); Tabaquite (W. J. Kaye).

PHELLINODES RUBEDINARIA, Wlk., xxv, p. 1464.

Range. Honduras.

Verdant Vale (S. Kaye).

# Family URANIADÆ.

Subfamily EPICOPEIANÆ.

Mania (Sæmatura) empedoclaria, Hübn., Verz. Schmett., 290, 2814.

Range. Brazil.

Maraval Valley (C. W. Ellacombe).

MANIA (SÆMATURA) ACTÆON, Feld., Taf., cxxi, f. 5. Range. HONDURAS.

Maraval Valley (C. W. Ellacombe).

Subfamily EPIPLEMINÆ.

Schidax squammaria, Hübn., Zutr., pp. 161, 162.

Range. Brazil.

In National Collection (W. E. Broadway), and in Schaus Collection.

EPIPLEMA INCOLORATA, Guen., Uran. and Phal., ii, p. 37.

Range. Honduras; Brazil; Ecuador.

In National Collection.

# Family PYRALIDÆ.

Subfamily CRAMBINÆ.

DIATRŒA SACCHARALIS, Fabr., Ent. Syst., iii, 2, p. 238.

Range. Colombia; Honduras; Brazil; Venezuela; U.S.A.; West Indies.

Tabaquite (W. J. Kaye).

Often introduced with Sugar Cane.

DIATRŒA CANELLA, Hmps., A. M. N. H., (6) xvi, p 349.

Range. Brazil, Castro Parana; Grenada.

Tabaquite (W. J. Kaye).

PLATYTES DIVISELLA, Wlk., XXXV, p. 1765.

Range. Colombia; Brazil, Sao Paulo.

Tabaquite (W. J. Kaye).

Subfamily SCHENOBIANÆ.

Scirpophaga albinella, Cram., Pap. Exot., pl. 372, f. D.

Range. Guiana; Brazil, Amazons; Panama; Grenada.

Tabaquite (W. J. Kaye).

Subfamily PHYCITINÆ.

HYPSIPYLA GRANDELLA, Zell., Isis, 1848, p. 881.

Range. Brazil, Rio Janeiro.

Tabaquite (W. J. Kaye).

Subfamily CHRYSANGINÆ.

Salobrena excisana, Wlk., Cat. Het., xxviii, p. 446.

Range. Brazil, Ega; Panama.

Tabaquite (W. J. Kaye).

CARCHA HERSILIALIS, Wlk., Cat. Het., xvii, p. 282.

Range. Honduras; Panama; St. Domingo.

Tabaquite (W. J. Kaye).

152 Mr. W. J. Kaye's Preliminary Catalogue of the

MICROZANCLA IGNITALIS, Hmps., P. Z. S. 1897, p. 668.

Range. Brazil, Rio, Sao Paulo.

Tabaquite (F. W. Urich).

Caphys Bilinea, Wlk., Cat. Het., xxvii, p. 13.

Range. Honduras; Brazil, Amazons; Grenada.

Tabaquite (W. J. Kaye).

Bonchis scoparioides, Wlk., Trans. Ent. Soc. Lond., (3) i, p. 128.

Range. Brazil.

GALASA RUBIDANA, Wlk., Cat. Het., xxxv, p. 1802. (Plate VI, fig. 24.)

Range. U.S.A.; JAMAICA.

Tabaquite (W. J. Kaye).

Note.—The Trinidad insect may prove to be distinct from G. rubidana as the marginal spots to the forewing are yellow, while those in the above are black.

EPITAMYRA BISECTALIS, Hmps., P.Z.S. 1897, p. 686.

Range. JAMAICA; ST. LUCIA.

Tabaquite (W. J. Kaye).

CHRYSAUGE FLAVELATA, Cram., Pap. Exot., iv, pl. 348, p. 112.

Range. VENEZUELA; BRAZIL, Para.

Tabaquite (W. J. Kaye).

### Subfamily PYRALINÆ.

# Pyralis nigrapuncta, n. sp. (Plate VI, fig. 15.)

Forewing dull reddish-chocolate; first line blackish edged with yellowish; medial line absent; post-medial line blackish edged with yellowish; the first and post-medial lines bound a broad fascia which occupies fully half the wing area; discoidal spot distinct, black; marginal portion of wing deeper coloured; cilia yellow. Hindwing same colour as outer marginal portion of forewing; cilia yellow.

Expanse 17 millim.

In June at Tabaquite (W. J. Kaye).

Mapeta xanthomelas, Wlk., Cat. Het., xxvii, p. 17.

Range. Colombia; Venezuela; Jamaica.

Verdant Vale (S. Kaye); Tabaquite (W. J. Kaye).

AULACODES PSYLLALIS, Guen., Delt. and Pyr., p. 258.

Range. Grenada.

Tabaquite (W. J. Kaye); Botanical Gardens (W. E. Broadway).

DIATHRAUSTA NERINALIS, Wlk., Cat. Het., xix, p. 928.

Range. West Indies; Panama; Ecuador.

In National Collection.

Stenia saponalis, Guen., Delt. and Pyr., p. 243.

Range. Panama.

In National Collection (F. W. Urich).

#### Subfamily PYRAUSTINÆ.

NEUROPHYSETA CALLA, n. sp. (Plate VI, fig. 14.)

Forewing yellow and orange; first line slightly curved; second line absent; third line much curved; these ante-medial and post-medial lines form the limitations of an obscure fascia; immediately preceding apex and at tornus are darker patches of orange. Hind-wing similarly coloured to forewing; a large tuft of loose long scales situated at the base. Head and thorax white.

Expanse 13 millim.

Taken at Tabaquite in June (W. J. Kaye).

DESMIA TAGES, Cram., Pap. Exot., ii, p. 2, pl. 97, f. D. Range. St. Domingo; Cuba; Brazil, Ega. At Tabaquite (W. J. Kaye).

Leucochroma melusinalis, Wlk., xviii, p. 492.

Range. Venezuela.

At Tabaquite (W. J. Kaye).

154 Mr. W. J. Kaye's Preliminary Catalogue of the

SYNGAMIA RUBROCINCTALIS, Guen., Delt. and Pyr., p. 199.

Range. Panama; Honduras.

At Tabaquite (W. J. Kaye).

SYNGAMIA CASSIDALIS, Guen., Delt. and Pyr., p. 199.

Range. West Indies; Brazil.

In National Collection.

SYNGAMIA TYTIUSALIS, Walk., xviii, p. 605.

Range. HONDURAS; PANAMA; BRAZIL, S. Paulo; DOMINICA.

At Tabaquite (W. J. Kaye).

SAMEA ECCLESIALIS, Guen., Delt. and Pyr., p. 194, pl. 6, f. 7.

Range. Brazil, Amazon; Venezuela; Honduras; Ecuador; Grenada.

At Tabaquite (W. J. Kaye).

PILOCROCIS PLUMBILINEA, n. sp. (Plate VI, fig. 4.)

Forewing dull ochreous-brown; ante-medial line strongly curved; medial line, present only near inner margin the upper portion being replaced by the discoidal spot which is V-shaped and dark brown; post-medial line much indented, especially towards costa. Hindwing slightly paler than forewing; an ante-medial line, hardly traceable on costa, is terminated on inner margin by a conspicuous patch; a minute black dot within the cell; margins of both wings with marginal dots.

Expanse 27 millims.

At Tabaquite in June, several specimens (W. J. Kaye).

PILOCROCIS DRYALIS, Wlk., xviii, p. 573.

Range. Jamaica; St. Domingo; Grenada; Mexico. At Tabaquite. (W. J. Kaye).

PILOCROCIS LIBERALIS, Guen., Delt. and Pyr., p. 350.

Range. PANAMA; BRAZIL.

At Tabaquite (W. J. Kaye).

PILOCROCIS INFUSCALIS, Guen., Delt. and Pyr., p. 350.

Range. St. Domingo; Colombia; Brazil.

Botanical Gardens (W. E. Broadway); Tabaquite (W. J. Kaye).

CONCHYLODES PLATINALIS, Guen., Delt. and Pyr., p. 282.

Range. Brazil, Para; Venezuela.

Botanical Gardens (W. E. Broadway); Tabaquite (W. J. Kaye).

Phryganodes prolongalis, Guen., Delt. and Pyr., p. 353.

Range. St. Domingo; Jamaica; Brazil; Grenada.

Verdant Vale (S. Kaye).

MESOCONDYLA CONCORDALIS, Hüb., Zütr., vi, 3, 13, 1 ff. 1-4.

Range. Brazil; West Indies.

In National Collection (F. W. Urich).

NACOLEIA LACERTALIS, Guen., Delt. and Pyr., p. 244.

Range. Brazil, Esperitu Santo.

At Tabaquite (F. W. Urich).

SYLEPTA AMANDO, Cram., Pap. Exot., iii, p. 92, pl. 247, f. E.

Range. VENEZUELA; BRAZIL, Amazons.

At Tabaquite (W. J. Kaye).

SYLEPTA FLAVIPENNIS, n. sp. (Plate V, fig. 7.)

Forewing light orange-yellow; a black spot near base on costa; first line commencing as a similar black spot and then continued of a brownish colour; discoidal spot almost black, triangularly shaped; the post-medial line unicolorous throughout its length and terminating at vein 2; from vein 2, much more remote from outer margin, is a short line of the same colour that runs down to inner margin. Hindwing of the same colour of forewing. Forelegs white ringed with black below femur.

Expanse 31 millim.

From Tabaquite (F. W. Urich).

156 Mr. W. J. Kaye's Preliminary Catalogue of the

SYLEPTA MATUTINALIS, Guen., Delt. and Pyr., p. 195.

Range. St. Vincent; Brazil, Amazons.

At Tabaquite (W. J. Kaye).

Lygropia bipunctalis, Hmpsn., A.M. N.H. (6), xvi, p. 334. Range.

Botanical Gardens (W. E. Broadway).

Leiopasia dorsalis, Hmpsn., P. Z. S., 1899, p. 216. (Plate VI, fig. 2.)

Range. Grenada, W. I.

At Tabaquite (F. W. Urich).

GLYPHODES LUCIDALIS, Hübn., Verz., p. 359.

Range. Grenada; St. Vincent; Cuba; Brazil.

(W. E. Broadway.)

GLYPHODES TRANSLUCIDALIS, Guen., Delt. and Pyr., p. 299.

Range. Brazil, Rio Janeiro.

(W. E. Broadway.)

LEUCINODES ELEGANTALIS, Guen., Delt. and Pyr., p. 222, pl. 3, f. 1.

Range. Brazil, Rio, Obydos, St. Paulo. In May at Tabaquite (F. W. Urich).

PACHYZANCLA DISTINCTA, n. sp. (Plate VI, fig. 20.)

Forewing very pale yellow; costa dark brown; outer margin lighter brown; the transverse lines of the same colour; first line angulated just below cell and immediately followed by a small spot of the same colour close to the costa; discoidal spot large and distinct, darker brown; medial line present only beyond vein 2 and thence to the inner margin; third line terminates at vein 2. Hindwing same colour as forewing; discoidal spot lightish brown; a line commences about half-way from origin of vein 2 and runs to anal angle and another line from costa to near vein 2, but much

nearer to margin, of the same colour as the line of forewing. On the 2nd segment of abdomen is a pair of conspicuous black spots.

Expanse 20 millim.

From Tabaquite (W. J. Kaye).

PIONEA EUPALUSALIS, Wlk., xviii, p. 605.

Range. Venezuela; Grenada. (W. E. Broadway; W. J. Kaye.)

PIONEA VINOTINCTALIS, Hmpsn., A.M.N.H. (6) xvi, p. 340. Range. Grenada.

Botanical Gardens (W. E. Broadway).

PIONEA TAENIOLALIS, Guen., Delt. and Pyr., p. 172.

Range. West Indies; Brazil.

In National Collection.

PYRAUSTA FALCATALIS, Guen., Delt. and Pyr., p. 167.

Range. NORTH and SOUTH AMERICA; CHINA; WESTERN INDIA; WEST AFRICA.

In the National Collection.

### Family PEROPHORIDÆ.

PEROPHORA MAGNAPUNCTA, n. sp. (Plate VI, fig. 10.)

Forewing pinkish-ochreous, with a strong oblique greyish black streak running up from the inner margin about the middle to vein 7 where it is strongly angled and then slightly curved to costa; discoidal blotch of the same colour very large almost touching the oblique streak; there is an indication of an ante-medial line present as a faint mark on the costa and again below the cell between veins 1 and 2 as a curved lunular mark; on the inner margin is a small triangular mark. Hindwing similarly coloured to forewing; an ante-medial streak forming a continuation of that on the forewing, slightly waved; between this and base of wing the ground colour is slightly paler and more yellowish. Thorax and abdomen unicolorous with wings. The streak of the forewing on the underside is broken up into broad lunular-like marks between the nervures.

Expanse 62 millim.

At Tabaquite in June (W. J. Kaye).

# Family LIMACODIDÆ.

SISYROSEA ALBIMARGINATA, sp. n. (Plate VI, fig. 22.)

Forewing whitish-grey; the marginal band considerably paler than the rest of wing and occupying more than one-third of wing; a row of marginal dots, very minute, blackish and inconspicuous; the band is edged internally by a slender white line; the inner portion of wing unicolorous dirty grey. Hindwing grey somewhat intermediate in colour between the two shades present in the forewing.

Expanse 19 millim.

From Tabaquite (W. J. Kaye).

NEOMRESIA NESEA, Stoll., Pap. Exot., iv, t. 305, C. (1781).

Range. Brazil, Amazon.

Verdant Vale (S. Kaye); also in National Collection.

SEMYRA BELLA, H. S. Ausser. Schmett., i, f. 181 (1854).

Range. Guatemala; Brazil.

Verdant Vale (S. Kaye).

# Family MEGALOPYGIDÆ.

CARAMA BUTLERI, Baker, Trans. Ent. Soc. Lond., pp. 133-135, t. 6, f. 1-3 (1887).

Range, South America.

In the National Collection.

# Family CASTNIADÆ.

Castnia Licus, Dru., Ill. Ex. Ent., i, t. 16, ff. 1, 2 (1773).

Range. Brazil; Ecuador.

St. Ann's Valley (F. W. Urich).

# Family SESIADÆ.

Sesia deceptura, Butl., A.M.N.H. (4) xiv, p. 409.

Range. AMAZONS.

Tabaquite (W. J. Kaye).

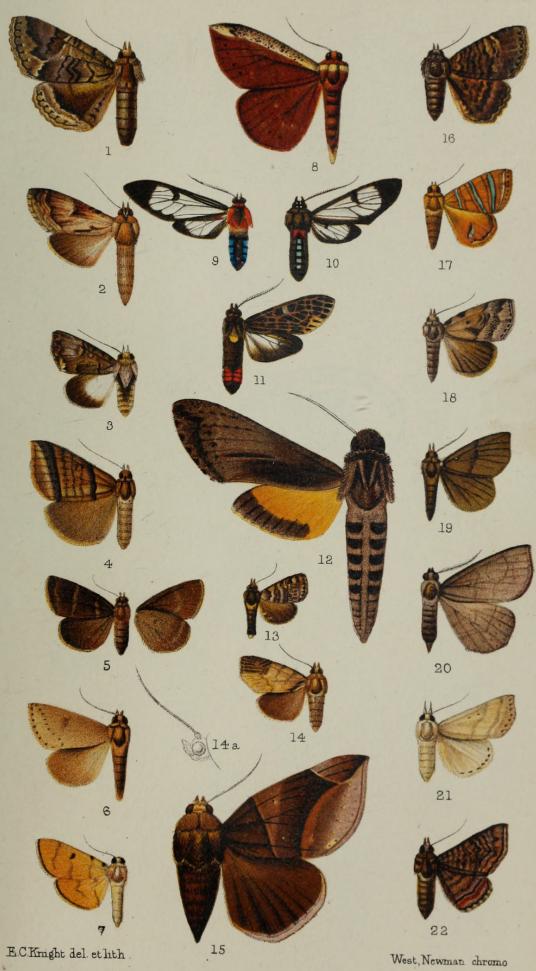
#### EXPLANATION OF PLATE V.

### Fig. 1. Xylis bidens.

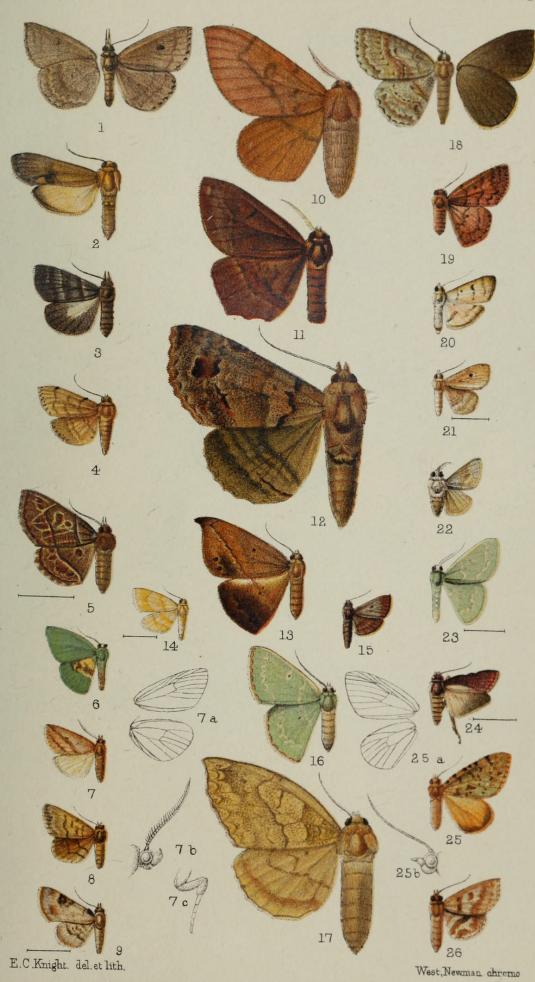
- 2. Nystalea calophasioides.
- 3. Aedia trinidadensis.
- 4. Hydrillodes totafusca.
- 5. Celiptera fuscilineata.
- 6. Herminodes xanthipterygia.
- 7. Sylepta flavipennis.
- 8. Enothalia perrubra.
- 9. Cosmosoma rubriscapulæ.
- 10. Cosmosoma melathoracia.
- 11. Eucereon hyalinum.
- 12. Anceryx scyron.
- $13. \ Homopyralis\ parviquadrata.$
- 14. Drobeda subrufescens.
- 15. Dysgonia purpurata.
- 16. Orsa multusta.
- 17. Phrygionis quadrilinea.
- 18. Acantholipes incisura.
- 19. Megatomis cyanolepia.
- 20. Catamelas fusca-purpurea.
- 21. Juncaria unicolorata.
- 22. Orsa perusta.

#### EXPLANATION OF PLATE VI.

- Fig. 1. Zanclognatha bipunctata.
  - 2. Leiopasia dorsalis.
  - 3. Tortricodes leucorabdota.
  - 4. Pilocrocis plumbilinea.
  - 5. Paramimetica fuscireticulata.
  - 6. Dichorda uricha.
  - 7. Parvapenna sentalis.
  - 8. Physula novitata.
  - 9. Psaliodes acidalioides.
  - 10. Perophora magnapuncta.
  - 11. Tarchon cuprea.
  - 12. Barydia bicristata.
  - 13. Patalene acuta.
  - 14. Neurophyseta calla.
  - 15. Pyralis nigrapuncta.
  - 16. Œnospila tenuilinea.
  - 17. Apatelodes basifulva.
  - 18. Gazena hypomelas.
  - 19. Heterephyra subrubra.
  - 20. Pachyzancia distincta.
  - 21. Sandasa micrastigma.
  - 22. Sisyrosea albimarginata.
  - 23. Racheospila undulosa.
  - 24. Galasa rubidana.
  - 25. Arima isolata.
  - 26. Orsa tenuata.



LEPIDOPTERA HETEROCERA FROM TRINIDAD.



LEPIDOPTERA HETEROCERA FROM TRINIDAD.



Kaye, William James. 1901. "VI. A preliminary catalogue of the Lepidoptera Heterocera of Trinidad William James Kaye, F.E.S." *Transactions of the Entomological Society of London* 49, 115–160.

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