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MOTHS OF THE GENUS *RUPELA* (PYRALIDIDAE:  
SCHOENOBIINAE)

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By CARL HEINRICH

*Bureau of Entomology and Plant Quarantine, United States Department of  
Agriculture*

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THIS paper is based upon specimens of pyralidid moths in the United States National Museum, the British Museum, the American Museum of Natural History, and the Cornell University collection. I am indebted to these institutions for the loan of specimens, to Dr. W. T. M. Forbes for the specimens collected by him in the Guianas, to Dr. H. E. Box for the gift of reared specimens from British Guiana and St. Lucia, and especially to W. H. T. Tams for giving me the correct application of the Walker and Zeller names. He made preparations of the genitalia of the Walker and Zeller types in the British Museum, compared them with drawings and slides that we submitted, and sent me photographs of the type slides and helpful notes on the types. I am obliged to him also for the loan of the British Museum material.

Studies of the genitalia in this genus brought surprising results. What we thought were but two or three white species proved to be at least 18 species, sharply defined on characters of the male and female genitalia, but so alike in color and so variable in size and in what ordinarily are specific differences in venation that they could not be separated by external characters. Needless to say, the specimens in the various collections were badly mixed, and no reli-

ance could be placed upon the references in literature to the older species. Therefore, I have omitted all but original references in the synonymy. Distribution as given in this paper is only for specimens I have examined.

Among the male specimens I recognize 20 species, and among the female specimens also 20. Unfortunately, in only five species could males and females be definitely associated. Therefore, it was necessary to give separate names to the unassociated males and females representing undescribed species. I regret having to do this, for eventually some of the new names will have to go into synonymy; but it may be many years before the sexes are associated, and meanwhile we shall need names for the females as well as the males. Some temporary double naming is unavoidable.

Thirty-one species are described as new, 2 from both sexes, 14 from males only, and 15 from females.

Two old names are placed in synonymy.

#### Genus RUPELA Walker

##### PLATE 33

- Rupela* WALKER, List of the specimens of lepidopterous insects in the collection of the British Museum, vol. 28, p. 523, 1863.—DYAR, Insector Insectiæ Menstruus, vol. 5, p. 80, 1917. (Genotype: *Rupela nivea* Walker.)  
*Storteris* BARNES and McDUNNOUGH, Contr. Nat. Hist. Lepid. North America, vol. 2, no. 4, p. 178, 1913.—DYAR, Insector Insectiæ Menstruus, vol. 1, p. 105, 1913. (Genotype: *Storteris unicolor* Barnes and McDunnough.)

Labial palpus upturned; basal segment clothed beneath with long hairlike scales; third segment short, acuminate. Maxillary palpus well developed, filiform, with scales at apex slightly dilated. Antenna minutely serrate and pubescent, laterally flattened. Thorax with expanding hair tuft from tegula. Fore wing with termen evenly curved; 12 veins; 2 and 3 from cell before angle; 4 and 5 from lower angle of cell, approximate, connate or stalked; 6 and 7 from cell, separate; 10 from the stalk of 8 and 9; 11 from the cell, separate from, approximate to, or anastomosing with 12. Hind wing with 8 veins; 4 and 5 from lower angle of cell, approximate, connate or stalked. Abdomen long; in female with large, expanded anal tuft; eighth abdominal sternite of male with several sclerotized areas and seventh sternite with a central sensory scale tuft on caudal margin (pl. 33, fig. 45); seventh abdominal sternite of female with a central longitudinal sclerotized area more or less developed (pl. 33, figs. 44, 46).

Male genitalia symmetrical; uncus stout, basal part enlarged and variously modified; gnathos strong, with central area produced caudally and strongly sclerotized (beaklike) or thin and only more

or less broadened, not produced caudally (bandlike); harpe with basal costal process produced, cucullus weakly sclerotized and simple; transtilla, when distinguishable, seldom sclerotized throughout; anellus with shieldlike ventral plate (juxta) and a more or less sclerotized dorsal part, which is frequently armed with spines; aedeagus moderately long, cylindrical, straight or only slightly bent, penis entrance well forward of base; cornuti rarely present; vinculum narrow, only slightly produced beyond base of harpe; from intersegmental membrane attaching to base of vinculum, a pair of fine, moderately long hair tufts.

Female genitalia with bursa copulatrix elongate, very weakly sclerotized, simple, with no trace of signa; ductus bursae sclerotized toward genital opening; area about genital opening always more or less sclerotized, often with a well-developed and deeply pigmented genital plate; ovipositor rods moderately long; rods of eighth segment collar of abdomen about twice the length of ovipositor rods, strong.

This genus, as far as I know, is confined to the New World. It contains all the white and two of the nonwhite American species formerly referred to *Topeutis* (= *Scirpophaga*). Five tropical American species (*bivitta* Möschler, *perstrialis* Hübner, *repugnatalis* Walker, *terrella* Hampson, and *irrorata* Hampson) are still properly referable to *Topeutis* on venational and palpal characters. These are all brown species or have the forewings banded with brown. One of the *Rupela* species has a brown form (*tinctella* Walker) and another (*pallidula*, new species) has gray-tinted forewings and fuscous hind wings. All the other species are white and not to be distinguished from each other except by their genitalia.

*Rupela* is apparently closely allied to *Topeutis*, from which it differs in having upturned labial palpi and vein 10 of fore wing from the stalk of 8-9. In *Topeutis* the palpi are porrect and vein 10 is from the cell; very rarely (in a few specimens of *terrella* Hampson) is vein 10 short stalked with 8-9. These differences were noted by Dyar in 1913 when he removed *Rupela* from the synonymy of *Scirpophaga*, where it had been placed by Hampson in 1896.

The males divide into two distinct groups, one having a bandlike gnathos and yellow anal tuft, the other a beaklike gnathos and white anal tuft. If a corresponding character can be found in the female genitalia it may be possible to remove the species with the bandlike gnathos from *Rupela* and give them a separate generic designation: but as yet we have no females definitely associated with males in this group and, therefore, are not justified in erecting a new genus.

There appear to be good specific differences in the shape and size of the bursa copulatrix, but, while this organ has been carefully figured in each case, I have not attempted to use it to define species. There are plenty of other more obvious characters in the female genitalia, and the bursa is so subject to distortion in preparation, so difficult to see in balsam, and subject to so much individual variation in size or shape that the attempt to use it in classification of species would confuse rather than help our definitions.

## KEY TO THE SPECIES OF RUPELA

*Males*

1. Gnathos with central area caudally produced and strongly sclerotized (beaklike). Anal tuft white----- 2  
    Gnathos with central area not caudally produced, thin (band-like). Anal tuft yellow----- 13
2. Dorsal element of anellus spined----- 3  
    Dorsal element of anellus unspined----- 9
3. Uncus laterally compressed at apex----- 4  
    Uncus not laterally compressed at apex----- 5
4. Aedeagus finely scobinate on venter near apex-----leucatea (p. 360)  
    Aedeagus spined on lateral margin at apex-----segrega (p. 366)  
    Aedeagus with pronounced lateral spur at apex-----pallidula (p. 365)
5. Tegumen with projecting spur from each ventrolateral margin-----scitula (p. 374)  
    Tegumen simple----- 6
6. Penis bearing a line of minute cornuti-----liberta (p. 364)  
    Penis without cornuti----- 7
7. Aedeagus with ventral scobinations near apex. One pair of long, stout spines on anellus-----cornigera (p. 371)  
    Aedeagus with one lateral margin near apex weakly serrate. Spines on anellus numerous, small, scattered-----albinella (p. 362)  
    Aedeagus with apex smooth and labeose; anellus with two or three pairs of minute spines-----labeosa (p. 363)  
    Aedeagus with sclerotized manica, otherwise simple; spines on anellus stout, rather short in a single cluster or in a pair of dense combs----- 8
8. Spines of anellus a single cluster at one side of dorsal membranous part-----gibbera (p. 367)  
    Spines of anellus arranged as an opposing pair of dense, dark combs-----saetigera (p. 367)
9. Sacculus of harpe produced at apex into a long, stout spine (clasper)----- 10  
    Sacculus not so produced----- 11
10. Clasper a straight spine-----nivea (p. 370)  
    Clasper a curved spine-----vexativa (p. 371)
11. Basal part of uncus scobinate and produced backward (cowlike)----- 12  
    Basal part of uncus without spines or scobinations, not produced backward-----tinctella (p. 368)
12. Aedeagus with apical half greatly narrowed (rodlike). Cucullus of harpe narrow-----sejuncta (p. 373)

Aedeagus with lateral flange at apex. Cucullus of harpe broad.....	imitativa (p. 372)
13. Penis bearing a small, serrate cornutus. Dorsal part of anellus consisting of a pair of strongly sclerotized, sinuous, irregularly serrate plates.....	horridula (p. 376)
Penis without cornutus. Dorsal part of anellus membranous.....	14
14. Apex of aedeagus produced into curved clawlike hook or hooks.....	15
Apex or aedeagus very slightly produced, but not into hooks or claws.....	16
15. Apex of aedeagus produced into a single, stout, curved, blunt hook.....	adunca (p. 374)
Apex of aedeagus produced into three heavy claws.....	lumarina (p. 375)
16. Base of uncus produced backward into forklike process with stubby, spined prongs.....	monstrata (p. 377)
Base of uncus produced backward into a broad concave plate bearing numerous heavy, long, curved spines.....	spinifera (p. 377)

*Females*

1. Genital plate a narrow semicircular band firmly joined to rods of eighth segment collar.....	tinctella (p. 368)
Genital plate not a semicircular band, nor attached to rods of eighth segment collar.....	2
2. In area caudad of genital opening a small, sclerotized nipple.....	sejuncta (p. 373)
In area caudad of genital opening an external sclerotized pocket.....	3
In area caudad of genital opening an internal sclerotized pocket.....	5
From area just caudad of genital opening a strongly sclerotized, projecting, hooked process.....	6
Area caudad of genital opening smoothly sclerotized or rugose, without pockets or protruding processes.....	7
3. Genital plate in the form of a stout, blunt, thornlike process in front of genital opening.....	lara (p. 382)
Genital plate otherwise.....	4
4. Genital opening irregular, more square than circular.....	procula (p. 384)
Genital opening nearly circular.....	jana (p. 381)
5. Genital plate large, completely surrounding genital opening.....	candace (p. 382)
Genital plate not surrounding genital opening; appressed to and no wider than ductus bursae.....	orbona (p. 384)
6. Projecting process from behind genital opening truncate. Ductus bursae greatly expanded toward genital opening.....	maenas (p. 383)
Projecting process bluntly pointed. Ductus bursae not greatly expanded toward genital opening.....	nercis (p. 383)
7. Just within genital opening (from lower margin of the opening) a pair of short, dark, hooklike processes.....	faustina (p. 380)
Just within genital opening a pair of sclerotized disks.....	gaia (p. 380)
No hooks, disks, or other processes within genital opening.....	8
8. Ductus seminalis forming a loop with ductus bursae just before genital opening.....	edusa (p. 379)
Juncture of ductus seminalis and ductus bursae otherwise.....	9
9. Lower margin of genital opening sinuate.....	leucatea (p. 360)
Lower margin of genital opening angulate or concave.....	10

- |  |                    |
|--|--------------------|
| 10. Lower margin of genital opening slightly concave.....                              | 11                 |
| Lower margin of genital opening deeply concave or angulate.....                        | 12                 |
| 11. Without defined genital plate. Genital opening of moderate width.....              | antonia (p. 378)   |
| With genital plate well defined. Genital opening very wide (as wide as the plate)..... | segrega (p. 366)   |
| 12. With defined genital plate.....  | 13                 |
| Without defined genital plate.....   | bendis (p. 378)    |
| 13. Genital plate completely surrounding genital opening; latter moderately wide.....  | 14                 |
| Genital plate not surrounding genital opening; latter as wide as the plate.....        | drusilla (p. 379)  |
| 14. Genital plate rugose, especially toward caudal margin.....                         | herie (p. 331)     |
| Genital plate smooth.....  | 15                 |
| 15. Bursa copulatrix very short, much reduced.....                                     | canens (p. 379)    |
| Bursa copulatrix normal.....   | albinella (p. 362) |

RUPELA LEUCATEA (Zeller)

PLATE 22, FIGURES 1-1*d*; PLATE 30, FIGURE 30; PLATE 33, FIGURES 44, 45, 48

*Scirpophaga leucatea* ZELLER, Chilonidarum et crambidarum genera et species, p. 2, 1863; male and female.

*Scirpophaga longicornis* MÖSCHLER, Abh. Senck. naturf. Ges., vol. 16, p. 321, 1890 (new synonymy); male and female.

Zeller described his *leucatea* from Brazil and St. Thomas. Later<sup>1</sup> he recorded it from Puerto Rico, Mexico, and Panama. I omit the latter reference from the synonymy, as it is quite likely that he had a mixed series before him. Until genitalia of all his paratypes are examined we can be sure only of his West Indian specimens and the actual type. Mr. Tams has examined the genitalia of the latter and checked them with my figures. I am indebted to him for the identifications. As far as we know there is only one pure white species of *Rupela* found in the Antilles; therefore *longicornis* Möschler is presumably the same as *leucatea*.

*Male*.—Wings shining white. Fore wing with veins 11 and 12 separate; 4 and 5 connate or shortly stalked. Hind wing with 4 and 5 connate or stalked. Anal tuft white.

Alar expanse, 22-38 mm.

Genitalia with gnathos beaklike but having rather prominent lateral arms; in ventral aspect with basal half rounded (central part of lower margin convex); apical half tapering to blunt point; apex not appreciably upturned; inner surface near apex finely scobinate. Uncus stout; basal portion broad with moderately wide dorsal groove; laterally compressed on dorsum at apex; from side view, apex broad, slanting; viewed from beneath, triangularly pointed. Harpe widest just before middle, very slightly tapered to broadly

<sup>1</sup> Horae Soc. Ent. Rossicae, vol. 13, p. 6, 1877.

rounded apex; basal costal process triangularly produced, not strongly sclerotized; sacculus very slightly produced at apex. Anellus consisting of ventral plate and a rugose dorsal piece, the latter bearing three minute spines on each of the ends attached to aedeagus; ventral plate with lateral margins concave. Aedeagus cylindrical, constricted somewhat at outer third, expanded laterally just before apex and finely scobinate on venter near apex.

*Female*.—Wing color and venation as in the male except that veins 11 and 12 are slightly anastomosed in one specimen. Anal tuft yellow.

Alar expanse, 25–53 mm.

Genitalia without defined genital plate but with area between genital opening and collar sclerotized and markedly rugose; lower margin of genital opening sinuate; ductus bursae sclerotized only at genital opening.

*Types*.—In British Museum (*leucateca*); Berlin Museum (*longicornis*).

*Type localities*.—Rio de Janeiro, Brazil (*leucateca*); Puerto Rico (*longicornis*).

*Food plant*.—*Echinochloa polystachya*. This food-plant record is from specimens reared by Dr. H. E. Box, St. Lucia, October 2, 1934.

*Distribution*.—JAMAICA; CUBA, Baragua (May), Matanzas (August); HISPANIOLA, Sanchez (May, June), Rio Yaque (February); PUERTO RICO, Santa Rita (July), Mayaguez (December), Bayamon (June), Catano (July), Rio Piedras (December), Dorado (May), Desengano (May, December), Toa-Baja (January, February); GUADELOUPE (December); GRENADA, Balthazar; MARTINIQUE; ST. LUCIA, Rosseau (August, September, October); ANTIGUA, Bendals (October); MEXICO, Teapa (Tabasco, January); GUATEMALA, Quirigua (October); HONDURAS; NICARAGUA; PANAMA, La Chorrera (April, May); TRINIDAD; VENEZUELA, Afoa; FRENCH GUIANA, St. Jean Maroni; BRITISH GUIANA, Georgetown (July), Kartabo (October), Mackenzie (June); SURINAM, Moengo (May), Para District (April), Paramaribo (May); BRAZIL, Rio Madeira (July–August), Tapera, Rio Campo Bello, Rio Jurna (July), Reyes (Beni River, July), Prainho (November), Itatoro (Rio Madina, February), Maranhao; ARGENTINA, Villa Ana "F.C.S.F." (February, March, December); PARAGUAY, Villarrica (March), Sapacay (September, November), Rio Pacaya (July); PERU, Madre de Dios.

*Remarks*.—One hundred and nine specimens (48 males and 61 females) examined, from the collections of the United States National Museum, British Museum, Cornell University, and American Museum of Natural History.

The species is readily identifiable by the scobinate aedeagus and apically compressed uncus of the male, the distinct rugosity of the membranous area behind the genital opening, and the sinuate margin of the genital opening in the female.

RUPELA ALBINELLA (Cramer)

PLATE 22, FIGURES 2-2*d*; PLATE 29, FIGURES 26-26*b*

*Scirpophaga albinella* CRAMER, *Papillons exotiques des trois parties du monde* . . ., vol. 4, pl. 372, fig. D, 1781; female.

Cramer's figure would fit almost any of the white species with yellow anal (female) tuft treated in this paper, and the name has been indiscriminately applied. Inasmuch as the type is nonexistent, I am fixing the name to the species apparently most abundant in the type locality. Dr. W. T. M. Forbes captured a male and female in copula, and we are therefore able to associate the sexes.

*Male*.—Wings white. Fore wing with veins 11 and 12 separate or, for a short distance, closely approximate; 4 and 5 connate or shortly stalked. Hind wing with 4 and 5 connate or stalked. Anal tuft white.

Alar expanse, 20-34 mm.

Genitalia with gnathos beaklike but having rather prominent lateral arms (attaching to tegumen); in ventral aspect basal half rounded (central part of lower margin convex); apical half tapering slightly to bluntly pointed apex; apex upturned (lateral view); inner surface (under high magnification) finely granulate, not spined or serrate. Uncus moderately stout; basal part with central dorsal excavation; a short but prominent dorsal keel near base; apical half digitate, very slightly broadened near apex; apex rounded. Harpe with lower margin indented near cucullus; apex rounded; basal process of costa not strongly sclerotized nor much produced; sacculus without apical projection, simple. Anellus consisting of ventral plate and a rugose, sclerotized dorsal piece, the latter bearing several small, inconspicuous spines; ventral plate with lateral margins concave. Aedeagus cylindrical, slightly widened at apex; one lateral margin near apex weakly serrate.

*Female*.—Wing color and venation as in the male. Anal tuft yellow.

Alar expanse, 27-45 mm.

Genitalia with genital plate well defined, sclerotized, its caudal margin angulate; genital opening rigid, its lower margin semicircular; ductus bursae strongly sclerotized toward genital opening. There is some variation in the size of the genital opening and in the width of the ductus in specimens from different localities—especially



as between larger specimens from central Brazil and smaller females from the Guianas and Central America. I am unable, however, to find any characters that would seem to indicate distinct races.

*Type*.—Lost.

*Type locality*.—Surinam.

*Distribution*.—MEXICO, Presidio, Atoyac (Veracruz), Teapa (Tabasco), Misantla (May); BRITISH HONDURAS, Cayo; GUATEMALA, Quirigua (April), Tiquisati (May), Volcan Sta. Maria (March); HONDURAS, Lancetilla (June); COSTA RICA (April), Port Limon (January), Sixola River (September); PANAMA, Bugaba, David, Tabernilla, Cabima (May), Rio Trinidad (June), Corozal (August); TRINIDAD, St. Augustine (November); FRENCH GUIANA, St. Laurent Maroni, St. Jean Maroni; BRITISH GUIANA, Georgetown (July, November), Mackenzie (June); SURINAM, Paramaribo (April, June), Moengo (May), Surinam River (St. Barbara Plantation, April); BRAZIL, Manaus, Pernambuco, Parintins (June), Parana de Buyassu (January), Itacoatiara (November), Breves (January), Para, Urucaia (November), Rio Jurna (November), Rio Jutatie (January), Rio Madeira (May), Faro (April), Pariti (Rio Purus, October), Ponte Nova (Rio Xingu), Taperinha, Sao Paulo de Olivenca (November-December), Amazon River between Tefte and Tonantins (November); COLOMBIA, Magdalena Valley, Rio Condeto (Choco, December); ECUADOR (no other locality); PERU, Rio Ucayali (December).

*Remarks*.—One hundred and eight specimens (33 males and 75 females) examined, from United States National Museum, British Museum, and Cornell University collections.

The species is easily identified by the serrations on the apical end of the aedeagus, the spining on the dorsal plate of the anellus, the dorsal keel on the uncus, and the peculiarly shaped female genital plate and genital opening.

RUPELA LABEOUSA, new species

PLATE 22, FIGURES 3-3d

*Male*.—Wings white. Fore wing with some dark shading on under side in costal area above cell; veins 11 and 12 approximate (but nowhere touching); 4 and 5 closely approximate or connate. Hind wing with 4 and 5 closely approximate or connate. Anal tuft white.

Alar expanse, 19-21 mm.

Genitalia with gnathos beaklike but having rather long lateral arms (forming attachments to tegumen); in ventral aspect basal half broadly rounded, apical half narrow, tapering to apex; inner surface finely serrate toward apex. Uncus stout; basal part very

broad, somewhat bulged but not extended backward into cowl-like lobe, its central dorsal area evenly excavate; apical half digitate; apex blunt and slightly hooked. Harpe with apex rounded (cucullus tapering); basal process of costa produced (the basal processes of the right and left harpes fusing to form a complete, sclerotized transtilla); sacculus folded upward toward apex (an appreciable depression in harpe just above sacculus). Anellus consisting of ventral plate and a sclerotized, somewhat roughened dorsal piece, the latter with a very few minute spines (2 or 3) on the ends attached to aedeagus. Aedeagus cylindrical, smooth; apex flaring into a wide mouth (labeose).

*Type and paratypes.*—U.S.N.M. no. 51856. Paratypes also in British Museum.

*Type locality.*—Castro, Paraná, Brazil.

*Remarks.*—Described from male type and six male paratypes from the type locality (four specimens collected by Wm. Schaus, three by E. D. Jones, no dates).

Easily recognized by its labeose aedeagus and completely formed transtilla.

Female unknown.

RUPELA LIBERTA, new species

PLATE 23, FIGURES 4-4c

*Male.*—Wings white. Fore wing with veins 11 and 12 anastomosing; 4 and 5 connate. Hind wing with 4 and 5 connate. Anal tuft white.

Alar expanse, 20-25 mm.

Genitalia with gnathos beaklike; lateral arms developed; in ventral aspect with basal half rounded (central part of lower margin deeply convex); apical half rather narrow, not appreciably tapering; apex bluntly pointed; in lateral aspect gnathos distinctly upcurved. Uncus with basal part broad and stout and deeply, evenly, and rather widely excavate; apical half digitate; apex rounded. Harpe slightly narrowed at cucullus; apex rounded; basal process of costa produced into short digitus; sacculus produced at apex as a rather prominent upfolded ridge. Anellus consisting of ventral plate and a strongly sclerotized dorsal band, which partially encircles aedeagus; each extremity of dorsal band bearing a cluster of very dark, moderately long, stout spines; ventral plate with upper margin broadly incised and lateral margins concave. Aedeagus cylindrical, rather slender, of nearly equal width throughout, a few minute scobinations on under surface near apex; penis bearing a thin, short line of minute cornuti.

*Type and paratypes.*—U.S.N.M. no. 51857. Paratype also in British Museum.

*Type locality*.—Durango, Mexico (C. C. Hoffman, "276").

*Remarks*.—Described from type and one paratype from the type locality, one paratype from Colima, Mexico (Schaus, collector), one paratype from Jalapa, Mexico (Schaus), and one paratype from Cabima, Panama (A. Busck, May 20, 1911).

The species may be recognized by the characteristic spining of the dorsal part of the anellus and the line of fine cornuti on the penis. Only two of the species treated in this paper show any trace of cornuti or a cornutus.

Female unknown.

RUPELA PALLIDULA, new species

PLATE 23, FIGURES 5-5d

*Male*.—Head and palpi as in the pure white species. Thorax white but with collar darker, concolorous with fore wing. Fore wing silvery buff, unicolorous; cilia snow white; veins 11 and 12 separate; 4 and 5 stalked. Hind wing darker than fore wing, gray to grayish brown, cilia snow white; veins 4 and 5 stalked. Wings concolorous beneath, grayish brown. Anal tuft white.

Alar expanse, 24-32 mm.

Genitalia with gnathos beaklike but with lateral arms well developed; basal, projecting part rather narrow, truncate; inner surface very finely scobinate; apex upturned. Uncus with basal part humped, subquadrate, rather deeply grooved posteriorly and somewhat rugose; apical half digitate, laterally compressed on dorsum at apex. Harpe tapering slightly at apex; apex rounded; basal process of costa greatly produced, digitate (the basal processes of the two harpes united by a bit of membrane at their apices); sacculus produced at apex into a minute spine. Anellus consisting of ventral plate and dorsal membrane, the latter bearing two pairs of short, stout spines; ventral plate broadly incised on upper margin, lateral margins concave. Aedeagus with a pronounced lateral spur at apex.

*Type and paratypes*.—U.S.N.M. no. 51858. Paratypes also in British Museum.

*Type locality*.—Castro, Paraná, Brazil.

*Remarks*.—Described from male type and 12 male paratypes from the type locality and 1 male paratype from Sao Paulo, Brazil.

The above were in the National Museum collection and British Museum identified as *tinctella* Walker. The species is easily recognized by its color, the spining of the anellus, and its characteristic aedeagus.

Female unknown, probably white.

## RUPELA SEGREGA, new species

## PLATE 23, FIGURES 6-6d: PLATE 30, FIGURE 32

*Male*.—Wings shining white. Fore wing with veins 11 and 12 separate; 4 and 5 approximate or connate. Hind wing with 4 and 5 connate or stalked. Anal tuft white.

Alar expanse, 26-33 mm.

Genitalia with gnathos beaklike but with lateral arms (attaching to tegumen) developed; posterior margin of central basal part rounded; inner surface finely scobinate; apex upturned. Uncus with basal part slightly humped, stout, subquadrate, deeply excavate posteriorly and dorsally; apical two-thirds digitate, laterally compressed on dorsum at apex (as in *leucatea* and *pallidula*). Harpe simple; cucullus but slightly narrowed; basal process of costa moderately produced, fusing with a very weakly sclerotized transtilla; saeculus not produced at apex. Anellus consisting of ventral plate and a somewhat roughened dorsal piece, the latter bearing one pair of long, stout spines and two pairs of shorter spines; ventral plate with upper margin incised, lateral margins deeply incised. Aedeagus with apex cleft, laterally expanded and spined on lateral margins.

*Female*.—Wing color and venation as in the male. Anal tuft white.

Alar expanse, 28-38 mm.

Genitalia with genital plate well defined and somewhat similar to that of *albinella* but with caudal margin more acutely angled; genital opening almost as wide as plate, the lower (outer) margin concave; ductus bursae strongly sclerotized (and brown) for a short distance from genital opening.

*Type and paratypes*.—U.S.N.M. no. 51859. Paratypes also in British Museum.

*Type locality*.—South Bay, Lake Okeechobee, Fla.

*Remarks*.—Described from male type, eight male and five female paratypes, the paratypes distributed as follows: FLORIDA, Glenwood, one male, Fort Meade (April), two males and one female, Coconut Grove (E. A. Schwarz), two males, Royal Palm State Park (F. M. Jones, March), one male (W. S. Blatchley, April) and one female, South Bay, one female, Dade City (September), one male, Biscayne Bay, one female; NORTH CAROLINA, Havelock on Lake Ellis (F. Sherman, June), one female; also one male without any locality label.

A North American species apparently confined to the southern part of the United States. Specimens of *segrega* (as well as *sejuncta* and white Florida females of *tinctella*) have hitherto been identified as *albinella* Cramer. The latter as far as I know does not occur in the United States.

## RUPELA GIBBERA, new species

## PLATE 24, FIGURES 7-7d

*Male*.—Wings shining white. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 connate. Anal tuft white.

Alar expanse, 23 mm.

Genitalia with gnathos beaklike the lateral arms developed; central part rather broad and stubby, tapering slightly to bluntly pointed apex; inner surface evenly and markedly granulate. Uncus heavy; basal part subquadrate, humped, deeply excavate on dorsum, the margins of the excavations rugose; apical part digitate, apex bluntly pointed. Harpe with costal process short, the latter fusing into a partially sclerotized but appreciable and complete transtilla; cucullus very slightly tapered; apex rounded; sacculus produced at apex into an upturned, rounded, sclerotized, platelike protuberance. Anellus consisting of ventral plate and a membranous dorsal part; from one side of the latter projects a curved sclerotized band which bears at its extremity a single cluster of stout, short spines. Aedeagus with greatly elongated, dark, rigid manica (*Ma.*, pl. 24, fig. 7b); otherwise simple.

*Type*.—In Cornell University collection.

*Type locality*.—Moengo, Boven, Cortica River, Surinam (W. T. M. Forbes, May 23, 1927).

*Remarks*.—Described from one male. May be really identified by the uncus, the single lateral spine cluster on the anellus, and the enlarged and strongly sclerotized manica of the aedeagus.

Female unknown.

## RUPELA SAETIGERA, new species

## PLATE 24, FIGURES 8-8c

*Male*.—Wings shining white. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 connate. Anal tuft white.

Alar expanse, 23 mm.

Genitalia with gnathos beaklike; lateral arms developed; central part with truncate lower margin; apical part tapering, apex pointed; inner surface with few and very weak granulations. Uncus heavy; basal part much enlarged, subquadrate, only slightly grooved on dorsum and with lateral-dorsal angles pointed and slightly produced; apical part rather short (in comparison to other species), tapering slightly, a central dorsal ridge running its entire length; apex blunt. Harpe constricted at cucullus; cucullus small, bluntly pointed; basal costal process slightly produced; sacculus broad, surface concave,

apex bluntly triangular and very slightly produced, free edge minutely serrate. Anellus consisting of ventral plate and dorsal membrane; the latter bearing an opposing pair of long, dense, very dark spine combs; spines numerous and moderately stout; lateral margins of ventral plate concave. Aedeagus slender, very slightly tapering; fused manica sclerotized for a short distance; otherwise simple.

*Type*.—U.S.N.M. no. 51860.

*Type locality*.—Castro, Paraná, Brazil (W. Schaus).

*Remarks*.—Described from one male. May be at once recognized by the bluntly triangular apex of the sacculus, the spine combs on the anellus, and the shape of the basal part of the uncus.

Female unknown.

#### RUPELA TINCTELLA (Walker)

PLATE 24, FIGURES 9-9c; PLATE 32, FIGURES 42, 43; PLATE 33, FIGURE 46

*Salapola tinctella* WALKER, List of the specimens of lepidopterous insects in the collection of the British Museum, vol. 23, p. 526, 1863; female.

*Scirpophaga zelleri* MÖSCHLER, Verh. zool.-bot. Ges. Wien, vol. 31, p. 435, 1882 (new synonymy); female.

*Scirpophaga holophaealis* HAMPSON, Ann. Mag. Nat. Hist., ser. 7, vol. 14, p. 181, 1904 (new synonymy); male.

*Storteria unicolor* BARNES and McDUNNOUGH, Contr. Nat. Hist. Lepid. North America, vol. 2, no. 4, p. 178, 1913; male.

*Rupela holophaealis* (HAMPSON) DYAR, Insector Inscitiae Menstruus, vol. 5, p. 80, 1917.

I am indebted to Mr. Tams for the identification of this species. He sent me a description and a photograph of the genitalia of Walker's type (a female) and compared a slide and a specimen I submitted. Möschler's species we know only from his description, but that leaves little doubt as to what he had before him. He says that the fore wing is "gelblich angehauctes Weiss." This (since his type is a female) could apply only to the female of *tinctella*. Hampson's *holophaealis* I associate on the evidence of distribution and a female of *tinctella* in the National Museum collection, which matches in color the paler fuscous males of *holophaealis*. Dyar established the synonymy of *holophaealis* and *unicolor*. I have examined the genitalia of the Barnes and McDunnough type.

The species is extremely variable in color and venation and normally the males and females are sharply contrasted, the males being brownish ochreous and the females white. But this dimorphism is not constant. I have before me two males from Argentina (British Museum collection) that are almost pure white and not to be distinguished from the other white species except by genitalia. We have also one pale brown female from French Guiana. The genital characters are constant.

*Male*.—Head, thorax, fore and hind wings, and dorsum of abdomen pale brown or brownish ochereous (rarely white), some specimens paler than others and some with hind wing slightly darker than fore wing, normally with fore and hind wings concolorous. In the brownish specimens the dark shading extends to the palpi and legs. Fore wing with veins 11 and 12 separate; 10 sometimes very short stalked with 8 and 9; 6 more or less approximate to 7 at base (in other species 6 and 7 usually well separated and parallel); 4 and 5 separate or connate. Hind wing with 4 and 5 separate, connate or shortly stalked. Anal tuft very pale ochereous or white.

Alar expanse, 20–34 mm.

Genitalia with gnathos beaklike: lateral arms rather long; central part with truncate lower margin; apical part rather short, not tapering; apex bluntly rounded; inner surface finely granulate. Uncus with basal part very little widened and not at all humped (rather flattened); apical part tapering; apex blunt. Harpe simple; apex bluntly rounded; basal projection of costa produced, the projections of the two harpes joining at their apices to form a narrow transtilla. Anellus consisting of ventral plate and slightly roughened dorsal membrane; ventral plate elongate, its lateral margins notched. Aedeagus with basal half enlarged; without spines or serrations.

*Female*.—Head, thorax, and wings sordid white to pure white (rarely pale brownish ochereous); the fore wing frequently with a yellowish tint. Venation as in the male. Anal tuft yellow; the underlying scales black-brown and wavy (in other species the underlying scales are often dark brown or blackish but nearly always straight).

Alar expanse, 25–42 mm.

Genitalia with genital plate strongly sclerotized, forming a semi-circular band attached firmly to the rods of the eighth segment collar. Ductus sclerotized only at genital opening.

*Types*.—In British Museum (*tinctella* and *holophaealis*); Berlin Museum (*zelleri*); United States National Museum (*unicolor*).

*Type localities*.—Venezuela (*tinctella*); Paramaribo, Surinam (*zelleri*); Abaco, Bahamas (*holophaealis*); Everglades, Fla. (*unicolor*).

*Distribution*.—UNITED STATES, Florida, Everglades (April), Miami, Coconut Grove, Dade City, Panacea (August), St. Petersburg (April, July), Fort Meade (April), Grove (May); MEXICO, Huasteca (Veracruz); CUBA, Matanzas (April); BRITISH GUIANA, Georgetown (July); FRENCH GUIANA, St. Laurent Maroni, St. Jean Maroni; SURINAM, Geldersland (Surinam River), Kartabo (No-

ember); TRINIDAD (June); BRAZIL, Castro (Paraná); PARAGUAY, El Gran Chaco (November); ARGENTINA, Villa Ana (February, March).

*Remarks.*—Ninety-two specimens (54 males and 38 females) examined, from the collections of the United States National Museum, British Museum, and Cornell University.

The species is easily identified by male and female genitalia. In all the species I have seen there is none except *tinctella* that has the genital plate of the female fused to rods of the collar.

RUPELA NIVEA Walker

PLATE 25. FIGURES 10-10c

*Rupela nivea* WALKER. List of the specimens of lepidopterous insects in the collection of the British Museum, vol. 28, p. 524. 1863; male.

This species, though quite distinct in genital characters from anything else in the genus, has long been listed as a synonym of *albinella* Cramer. I am indebted to Mr. Tams for examining genitalia of Walker's type and giving me the correct identification.

*Male.*—Wings pure white. Fore wing with veins 4 and 5 closely approximate, connate or stalked; 11 and 12 closely approximate or anastomosing. Hind wing with 4 and 5 closely approximate, connate or stalked. Anal tuft white.

Alar expanse, 24-37 mm.

Genitalia with gnathos beaklike, heavy, smooth, broad at base (in ventral aspect), tapering to bluntly pointed apex. Uncus broad at base and tapering to apex, stout; basal part extended backward into bulbous lobe; from lateral view widest and slightly humped at middle (decidedly humped in specimen from Castro, pl. 25, fig. 10c). Harpe with apex tapering and rounded; basal process of costa (*Clh*) greatly extended, digitate; sacculus produced into elasper (*Cl*); the latter a long, stout, straight spine. Anellus consisting of a rigid ventral plate and a dorsal membrane which attaches to the aedeagus; upper (caudal) margin of plate deeply incised; membrane rugose, the wrinkles appreciably sclerotized. Aedeagus smooth; cylindrical; tapering slightly from beyond middle to apex.

*Type.*—In British Museum.

*Type locality.*—Pará (Santarem), Brazil.

*Distribution.*—PANAMA, Porto Bello (April, May); BRAZIL, Castro (Paraná); ARGENTINA, Gran Chaco (October), Villa Ana (January, February), Goya.

*Remarks.*—Twelve specimens examined. These are all males and are from the United States National Museum and British Museum collections. The Castro male (from the British Museum collection) is somewhat abnormal. The uncus is more appreciably humped than



in any of the other specimens and the clasper had a short secondary spine branching from its base. These differences are probably but individual abnormalities and, in my opinion, do not justify any separate name (varietal or otherwise) for the Castro specimen.

The female is unknown.

*RUPELA VEXATIVA*, new species

PLATE 25, FIGURES 11-11c

*Male*.—Wings pure white. Fore wing with veins 4 and 5 connate: 11 anastomosing with 12. Hind wing with 4 and 5 very shortly stalked. Anal tuft white.

Alar expanse, 27 mm.

Genitalia with gnathos beaklike, triangular, cleft from apex to middle. Uncus broad at base, tapering sharply to pointed and slightly hooked apex; basal part extended backward as a bulbous lobe (cowllike); dorsal surface of lobe with a few weak, scattered scobinations. Harpe with cucullus somewhat broadened toward apex; apex rounded; basal process of costa long, digitate; sacculus produced into clasper, the latter, a strong, stout spine, curved upward to costa. Anellus consisting of a rigid ventral plate and dorsal membrane; plate somewhat constricted at middle, lateral margins deeply incurved; membrane but slightly rugose, weakly sclerotized. Aedeagus smooth, bulging laterally just beyond middle, thence tapering rather abruptly toward apex; apex spatulate.

*Type*.—In British Museum.

*Type locality*.—Quirigua, Guatemala.

*Remarks*.—Described from one male collected by Wm. Schaus (April).

This species is easily recognized by its peculiar aedeagus, its cleft, triangular gnathos, and its strong, curved, hooklike clasper.

Female unknown.

*RUPELA CORNIGERA*, new species

PLATE 25, FIGURES 12-12b

*Male*.—Wings white. The wings are not so bright as in most of the other species, but their dullness may be due to the condition of the specimens. Under side of fore wing faintly dark shaded in costal area; veins 11 and 12 separate; 4 and 5 connate or shortly stalked. Hind wing with 4 and 5 connate or shortly stalked. Anal tuft white.

Alar expanse, 27-30 mm.

Genitalia with gnathos beaklike, tapering abruptly to middle, and gradually from middle to bluntly rounded apex. Uncus stout, basal part very broad and with central rib; apical two-thirds digitate;

apex bluntly rounded. Harpe approximately rectangular; basal process of costa somewhat produced but not strongly sclerotized, fusing into membranous transtilla; sacculus folded upward toward apex, not otherwise produced. Anellus consisting of ventral plate and a more strongly sclerotized U-shaped dorsal band; dorsal margin of ventral plate slightly concave; dorsal band bearing a pair of very long, stout spines. Aedeagus bent beyond middle; apical area ventrally compressed and slightly concave; the hind margin of this concave area armed with short thornlike scobinations; apex truncate.

*Type*.—U.S.N.M. no. 51861.

*Paratypes*.—In British Museum.

*Type locality*.—Castro, Paraná, Brazil.

*Remarks*.—Described from male type (Schaus, collector) and two male paratypes (E. D. Jones, collector) from the type locality. In addition to the above I have before me two small males belonging to the British Museum and collected at Obydos, Brazil, by E. E. Austin, February 2, 1896. They are smaller (18.5–20 mm) than the type series, and their genitalia are about half the size of those of typical *cornigera*. Otherwise there appears to be no difference. Possibly they represent a race. On the other hand, they may be merely stunted, aberrant specimens. Therefore I am not including them among the paratypes.

Female unknown.

RUPELA IMITATIVA, new species

PLATE 26, FIGURES 13–13c

*Male*.—Wings shining white. Fore wing with veins 11 and 12 approximate; 4 and 5 approximate. Hind wing with 4 and 5 connate or very shortly stalked. Anal tuft white.

Alar expanse, 36–38 mm.

Genitalia with gnathos beaklike; lateral arms developed; lower margin slightly convex; apical part stout, tapering to bluntly pointed apex; apex upturned; inner surface with a weak, central, longitudinal ridge. Uncus with basal part ovoid, produced backward (cowllike), finely and densely scobinate; apical part stout and but slightly tapered; apex bluntly pointed. Harpe with sacculus produced at apex into a strongly sclerotized fold; basal projection of costa produced, prominent; cucullus not narrowed, apex bluntly rounded. Anellus consisting of ventral plate and a slightly roughened dorsal membrane, ventral plate with upper margin concave, lateral margins widely and deeply concave. Aedeagus with basal part somewhat enlarged; apical half narrowing to blunt apex; apex with lateral flange.

*Type*.—In British Museum.

*Paratype*.—U.S.N.M. no. 51862.

*Type locality*.—Castro, Paraná, Brazil (E. D. Jones).

*Remarks*.—Described from male type and one male paratype from the type locality. May be recognized at once by the flanged aedeagus. Female unknown.

RUPELA SEJUNCTA, new species

PLATE 26, FIGURES 14-14c; PLATE 32, FIGURE 39

*Male*.—Wings shining white. Fore wing with veins 11 and 12 anastomosing; 4 and 5 connate. Hind wing with 4 and 5 connate or very shortly stalked. Anal tuft white.

Alar expanse, 28-33 mm.

Genitalia with gnathos beaklike; lateral arms developed; lower margin broadly rounded; apical part abruptly tapering to bluntly pointed apex; apex upturned and notched; outer (under) surface slightly roughened. Uncus with basal part ovoid, produced backward (cowllike), covered with short scobinations; apical part somewhat short in proportion to basal, tapering to pointed apex. Harpe with narrowed cucullus; apex bluntly rounded; sacculus produced into a very short spine at apex; basal projection of costa greatly produced. Anellus consisting of ventral plate and unsclerotized dorsal membrane; ventral plate with upper margin deeply angulate-emarginate, lateral margins widely and rather deeply concave. Aedeagus with apical half and extreme base greatly narrowed; apical half rodlike, curved at apex; manica prominent, but weakly sclerotized.

*Female*.—Wing color and venation as in the male. Anal tuft white.

Alar expanse, 25-30 mm.

Genitalia with genital plate large, completely surrounding genital opening, strongly sclerotized, its lateral areas granulate; lower margins of genital opening deeply rugose, black-brown and very strongly sclerotized; at caudal margin a short, hollow, outwardly projecting nipple.

*Type and paratypes*.—U.S.N.M. no. 51863. Paratypes also in British Museum.

*Type locality*.—Harris County, Tex. (May).

*Remarks*.—Described from male type, six male and six female paratypes; the paratypes distributed as follows: TEXAS, Harris County, one male and one female; GEORGIA, one male and one female; FLORIDA ("Allen River to Deep Lake", April 12, 1912), one male, Everglades, one female; ALABAMA, Selma (E. A. Schwarz, September 1880), one male; "STATEN ISLAND" ("26-VI-01"), one female; also two males and two females from the Zeller collection (1880) in the British Museum, without locality label but presumably from Texas.

The species as far as I know is limited to the United States. Hitherto specimens have been identified as *albinella* Cramer. It can be identified at once by its peculiar aedeagus and female genital plate.

RUPELA SCITULA, new species

PLATE 26, FIGURES 15-15c

*Male*.—Wings shining white. Fore wing with veins 11 and 12 separate; 4 and 5 approximate or connate. Hind wing with 4 and 5 stalked. Anal tuft white.

Alar expanse, 21-29 mm.

Genitalia with gnathos beaklike; lateral arms well developed; basal projecting part truncate; apical part tapering to pointed apex; inner surface sparsely and very finely scobinate. Uncus with basal part bilobed but rather small as compared with other species, the lobes bearing several short spines on dorsum; apical part long, tapering to pointed apex. Harpe with basal process of costa slightly produced; apex bluntly rounded; sacculus produced into a narrow, elongate fold at apex, otherwise simple. Anellus consisting of ventral plate and a partially sclerotized dorsal band, the latter bearing one pair of very long, stout spines and a pair of much thinner and shorter spines; lateral margins of ventral plate narrowly but deeply excurvate. Aedeagus with apex deeply but narrowly excavate on under side and bearing several short, stout, ventral spines. Tegumen with sharp, projecting spur (*Tgsp*) from each inner lateral margin.

*Type and paratype*.—U.S.N.M. no. 51864. Paratypes also in Cornell University collection and British Museum.

*Type locality*.—Tucuman, Argentina.

*Remarks*.—Described from male type and seven male paratypes, the paratypes distributed as follows: On boat from Mexico (Quarantine no. Phila. 27764), one; BRAZIL, Obydos (E. E. Austin, February 2, 1896), one, Rio Janunda ("11-4-47"), two; BRITISH GUIANA, Mackenzie, Demerara (W. T. M. Forbes, June 23-24, 1927), three.

May be identified at once by the shape of the uncus, the spinning of the dorsal part of the anellus, and the spurs on the tegumen.

Female unknown.

RUPELA ADUNCA, new species

PLATE 27, FIGURES 16-16c

*Male*.—Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 shortly stalked. Hind wing with 4 and 5 very shortly stalked. Anal tuft yellow.

Alar expanse, 39 mm.

Genitalia with gnathos bandlike, the central portion widely expanded (apronlike). Uncus with base enlarged, bulbous, covered with small, papillate protuberances and with a narrow dorsal groove; apical part laterally compressed (knifelike), slightly humped at middle; apex pointed. Harpe with basal projection from costa greatly produced and fusing with membranous, minutely scobinate transtilla; sacculus produced at apex into an upcurved sclerotized lip from which a sclerotized ridge extends upward to the costa; at center of ridge a slight projection. Anellus consisting of ventral plate and dorsal membrane; ventral plate with upper margin broadly and deeply angulate and lateral margins deeply excavate. Aedeagus heavy; basal part swollen; apex produced into a stout, blunt hook.

*Type*.—U.S.N.M. no. 51865.

*Type locality*.—Bolivia.

*Remarks*.—Described from one male from the National Museum collection labeled as follows: "17-46-55 S. Lat., 63-5-34 Long."

A large species easily identified by its peculiar aedeagus and uncus. Female unknown.

RUPELA LUMARIA, new species

PLATE 27, FIGURES 17-17c

*Male*.—Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 closely approximate. Hind wing with 4 and 5 closely approximate. Anal tuft yellow.

Alar expanse, 30 mm.

Genitalia with gnathos bandlike, slightly expanded at middle. Uncus with basal part a broadly triangular, hoodlike, rugose projection with deep central, dorsal groove; apical part abruptly tapering to pointed apex. Harpe with basal costal projection strongly produced and fusing with finely scobinate, membranous transtilla; sacculus produced into an elongately triangular, coarsely scobinate projection with apex sharply pointed; apex of harpe bluntly rounded. Anellus consisting of ventral plate and membranous dorsal part, the latter faintly rugose. Aedeagus stout, cylindrical; apex expanded and produced into three heavy claws.

*Type*.—U.S.N.M. no. 51866.

*Type locality*.—Carillo, Costa Rica (W. Schaus, March).

*Remarks*.—Described from single male. Can be identified by basal modification of uncus, the 3-clawed aedeagus, and the heavy, triangular, scobinate projection of the sacculus.

Female unknown.

## RUPELA HORRIDULA, new species

PLATE 27, FIGURES 18-18f; PLATE 33, FIGURE 47

*Male*.—Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 connate or closely approximate. Hind wings with 4 and 5 connate or shortly stalked. Anal tuft yellow.

Alar expanse, 22-32 mm.

Genitalia with gnathos bandlike, simple. Uncus with basal part bifid, produced as two subtriangular, laterally flattened, jagged lobes. Apical part smooth except for a slight dorsal keel near apex; apex hooked. Harpe broad; apex bluntly pointed; basal projection of costa considerably produced and fusing into membranous transstilla; sacculus produced at apex into a short, broad, blunt, up-curved spur; from this a sclerotized ridge extends to the basal projection of the costa. Anellus consisting of ventral plate and a pair of strongly sclerotized, narrow, sinuous, irregularly serrate dorsal plates; ventral plate with upper (caudal) margin deeply angulate and lateral margins excavate. Aedeagus with from one to three ventral thornlike teeth toward apex; penis bearing a small, flattened, serrate cornutus.

*Type and paratypes*.—U.S.N.M. no. 51867. Paratypes also in collections of Cornell University, British Museum and Harold E. Box.

*Type locality*.—Campo Bello, Rio de Janeiro, Brazil (Zikan, collector).

*Food plant*.—*Andropogon bicornis*. This food-plant record is from specimens submitted by Dr. H. E. Box, San José, British Guiana, April 1936 (Myers no. 5328).

*Remarks*.—Described from male type and 25 male paratypes, the paratypes distributed as follows: BRAZIL, Campo Bello (Rio de Janeiro), two, Organ Mountains (near Tijuca, Rio de Janeiro), one, Ponte Nova (Rio Xingu), three; SURINAM, Zanderij (Boven, Para District, April), one; FRENCH GUIANA, St. Jean Maroni, five; BRITISH GUIANA, San José (Pupununi District, April), two, Georgetown, one, Kartabo (Bartica District, October, November), four, Mackenzie (June), two, Rio Demerara, one; TRINIDAD, (Dyar collection, B. M. no. 1923-361), two, (Saunders collection, B. M. no. 94-68), one.

This species is easily recognized by the structure of its anellus and uncus. There is considerable variation in the size and spining of the basal lobes of the uncus in different specimens, but between the extreme forms (shown in pl. 27, figs. 18*d* and 18*e*) there is every possible intergrade so that no distinct varieties or races can be established.

Female unknown.

## RUPELA SPINIFERA, new species

PLATE 28, FIGURES 19-19c

*Male*.—Wings shining white. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 connate or shortly stalked. Anal tuft yellow.

Alar expanse, 39-45 mm.

Genitalia with gnathos bandlike, simple. Uncus with basal part produced backward into a broad, rounded, concave, and bifurcate plate armed along its outer margin with long, heavy spines; apical part long, its base clothed with long, slender hairs on dorsum, its apex sharply hooked. Harpe broad; cucullus abruptly narrowed; apex bluntly pointed; basal projection of costa long, digitate, fusing into membranous transtilla; sacculus produced at apex into a wide flange which is extended in a sclerotized ridge to basal projection of costa. Anellus consisting of ventral plate and dorsal membrane; upper margin of ventral plate angulate, lateral margins broadly excavate. Aedeagus long, tapering from slightly enlarged base to produced apex.

*Type*.—U.S.N.M. no. 51868. Paratype in British Museum.

*Type locality*.—Castro, Paraná, Brazil.

*Remarks*.—Described from male type (W. Schaus, collector) and one male paratype (E. D. Jones, collector) without dates and both from the type locality.

A large species distinguished by its long slender aedeagus and heavily spined uncus.

Female unknown.

## RUPELA MONSTRATA, new species

PLATE 28, FIGURES 20-20c

*Male*.—Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 closely approximate. Hind wing with 4 and 5 closely approximate. Anal tuft yellow.

Alar expanse, 46 mm.

Genitalia with gnathos bandlike, simple. Uncus with base only slightly widened, produced backward into a stout, forked process with heavy, ribbed stem and thick, stubby prongs, the latter bearing one or two spines; apical part greatly extended, digitate; apex abruptly tapering and slightly hooked. Harpe broad; cucullus abruptly narrowed; apex bluntly pointed; basal projection of costa normally produced but not strongly sclerotized (transtilla membranous and not well defined); sacculus produced at apex into a shallow flange whose upper extremity is slightly notched. Anellus consisting of ventral plate and dorsal membrane; the upper and

lateral margins of the ventral plate are so deeply angulate that the upper half of the plate appears as two divergent bands. Aedeagus long; basal half slightly enlarged; apical half not appreciably tapering; apex truncate, with one or two short teeth at ventral extremity.

*Type*.—U.S.N.M. no. 51869.

*Type locality*.—Castro, Paraná, Brazil (W. Schaus).

*Remarks*.—Described from one male. The largest of the male Rupelas, easily identified by its anellus and greatly elongated digitate uncus.

Female unknown.

UNASSOCIATED FEMALES

RUPELA ANTONIA, new species

PLATE 30, FIGURE 31

Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 stalked. Anal tuft yellow.

Alar expanse, 38–43 mm.

Genitalia as in *leucateu* except that the lower margin of the genital opening is concave rather than sinuate and the sclerotization of the ductus bursae extends farther back from the genital opening.

*Type and paratype*.—U.S.N.M. no. 51892.

*Type locality*.—Sixola River, Costa Rica (April, September). Described from two females, both from the type locality.

RUPELA BENDIS, new species

PLATE 29, FIGURE 21

Wings white. Fore wing with 11 and 12 separate; 4 and 5 connate or shortly stalked. Hind wing with 4 and 5 connate or shortly stalked. Anal tuft yellow.

Alar expanse, 28–33 mm.

Genitalia similar to those of *albinella* but without defined genital plate; area about genital opening very weakly sclerotized. Lower margin of genital opening concave and with a small notch in center.

*Type and paratype*.—U.S.N.M. no. 51893. Paratype also in British Museum.

*Type locality*.—Aroa, Venezuela.

*Remarks*.—Described from three females, the paratypes distributed as follows: VENEZUELA, Aroa, one; BRAZIL, Parapanema (Sao Paulo), one.

There are also two rather doubtful specimens in the British Museum from Brazil (Paraná de Buyassu and Rio Cararauca). In one of these the central notch in the lower margin of the genital opening is obsolete and in the other nearly so.



## RUPELA CANENS, new species

## PLATE 29, FIGURE 23

Wings white. Fore wing with veins 11 and 12 anastomosing; 4 and 5 connate. Hind wing with 4 and 5 shortly stalked. Anal tuft yellow. Alar expanse, 26–33 mm.

Genitalia similar to those of *bendis*, but area about genital opening more appreciably sclerotized; a genital plate faintly indicated. Lower margin of genital opening deeply concave (somewhat angulate). Bursa copulatrix very small, not reaching length of rods of eighth segment collar. Ductus bursae sclerotized for some distance from genital opening.

*Type*.—U.S.N.M. no. 51894. Paratype in British Museum.

*Type locality*.—Sao Paulo de Olivenca, Brazil.

*Remarks*.—Described from two females, the paratype from Parintins, Brazil.

In some characters the genitalia are more similar to those of *albinella* than to those of *bendis*. However, they seem to indicate a species distinct from either.

## RUPELA DRUSILLA, new species

## PLATE 29, FIGURE 24

Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 stalked. Anal tuft white.

Alar expanse, 28 mm.

Genitalia with genital opening wide. Genital plate reduced to area back of genital opening (not completely surrounding the opening), triangular. Lower margin of genital opening angulate. Ductus bursae laterally broadened and well sclerotized toward genital opening. The genitalia resemble most those of *segrega*, from which they are readily separated by the shape of the lower margin of the genital opening.

*Type*.—U.S.N.M. no. 51895.

*Type locality*.—Castro, Paraná, Brazil.

*Remarks*.—Described from one female. The fore wings of this specimen have a faint creamy tint, which may or may not be the normal color. I suspect that a series would show most of the specimens pure white. Possibly the female of *saetigera* or *pallidula*.

## RUPELA EDUSA, new species

## PLATE 30, FIGURE 29

Wings white. Fore wing with 11 and 12 separate or approximate; 4 and 5 separate or connate. Hind wing with 4 and 5 separate or connate. Anal tuft white.

Alar expanse, 21–26 mm.

Genitalia with area behind the genital opening markedly sclerotized and pigmented, smooth just behind opening and rugose and finely granulate beyond (in the direction of ovipositor). Lower margin of genital opening concave with lateral ends somewhat straightened; the ductus at genital opening narrowly sclerotized. Ductus seminalis from ductus bursae and forming a loop with it just before genital opening.

*Type and paratypes*.—U.S.N.M. no. 51896. Paratype also in British Museum.

*Type locality*.—Castro, Paraná, Brazil.

*Remarks*.—Described from seven females, the paratypes all from the type locality.

The species is chiefly distinguished by the peculiar shape and juncture of the ductus bursae and ductus seminalis. This may be the female of *labeosa*.

RUPELA FAUSTINA, new species

PLATE 29, FIGURE 22

Wings white. Fore wing with veins 11 and 12 anastomosing; 4 and 5 connate or shortly stalked. Hind wing with 4 and 5 connate or shortly stalked. Anal tuft yellow.

Alar expanse, 21–25 mm.

Genitalia with a smooth, sclerotized, roundly oval plate just behind genital opening. Lower margin of genital opening slightly angulate. Just within lip of genital opening a pair of short, dark, hooklike processes. Ductus weakly sclerotized toward genital opening.

*Type and paratype*.—U.S.N.M. no. 51897. Paratype also in British Museum.

*Type locality*.—Cabima, Panama (Busck, May).

*Remarks*.—Described from three females from the type locality.

From the fore-wing venation, size, and distribution I am inclined to believe that this is the female of *liberta*.

RUPELA GAIA, new species

PLATE 30, FIGURE 28

Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 closely approximate or connate. Hind wing with 4 and 5 closely approximate or connate. Anal tuft yellow.

Alar expanse, 39–48 mm.

Genitalia with area to the sides and behind the genital opening slightly rugose and weakly sclerotized. Lower margin of genital opening angulate, the angle bluntly pointed. Within the genital opening a pair of dark, small, oblong, sclerotized disks.

*Type and paratypes.*—U.S.N.M. no. 51898. Paratypes also in British Museum.

*Type locality.*—Castro, Paraná, Brazil.

*Remarks.*—Described from six females, the paratypes distributed as follows: BRAZIL, Castro, three; ARGENTINA, one; PARAGUAY, Villarrica (November), one.

RUPELA HERIE, new species

PLATE 30, FIGURE 27

White wings. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 connate. Anal tuft yellow.

Alar expanse, 30–33 mm.

Genitalia with pigmented (yellow) and sclerotized genital plate; the plate rugose, especially toward margins and with caudal part acutely angulate. Genital opening semicircular, the lateral edges of its lower margin fusing into the plate.

*Type.*—U.S.N.M. no. 51899. Paratype in Cornell University collection.

*Type locality.*—Georgetown, British Guiana (April).

*Remarks.*—Described from two females, the paratype from Zanderij (Para District), Surinam (April).

RUPELA JANA, new species

PLATE 31, FIGURE 38

Wings white. Fore wing with veins 11 and 12 closely approximate (rarely anastomosing); 4 and 5 connate or shortly stalked. Hind wing with 4 and 5 connate or shortly stalked. Anal tuft yellow.

Alar expanse, 29–47 mm.

Genitalia with large sclerotized plate completely surrounding genital opening; its lateral areas partially detached from central portion of the plate; near its caudal margin a strongly sclerotized, brown, external pocket. Ductus unsclerotized at genital opening and the lower margin of genital opening unpigmented. Genital opening nearly circular.

*Type and paratypes.*—U.S.N.M. no. 51900. Paratypes also in British Museum and Cornell University collections.

*Type locality.*—Chaco, Argentina.

*Remarks.*—Described from 28 females, the paratypes distributed as follows: PANAMA, Porto Bello (May), four; SURINAM (no other locality, Zeller collection of British Museum), one; BRITISH GUIANA, Berbice, one; BRAZIL, Obydos (Pará), one, Rio Madeira, three, Rio Cuminae, one, Pará, two, Breves (January), one; PERU, Iquitos, one;

ARGENTINA. Villa Ana (January, February, March), eight, Goya, one, and two specimens without definite locality; PARAGUAY, Gran Chaco (March), one.

In addition to the type series there is one specimen in the British Museum from Sao Paulo, Brazil, that belongs here but is not included among the paratypes. It is abnormal, in that the sclerotized pocket is much narrower than in other specimens and the lateral areas of the genital plate are completely fused with the central area. The entire plate seems to have been pinched. I believe that these differences indicate nothing more than an individual and freak development.

RUPELA CANDACE, new species

PLATE 29, FIGURES 25, 25a

Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 closely approximate or connate. Hind wing with 4 and 5 connate. Anal tuft yellow.

Alar expanse, 38–44 mm.

Genitalia with large sclerotized plate surrounding genital opening; at its caudal end a strongly sclerotized, internal pocket (see projection sketch of pl. 29, fig. 25). Ductus sclerotized at genital opening. Margin of genital opening strongly sclerotized and dark brown. Genital opening oval.

*Type*.—In British Museum.

*Paratype*.—U.S.N.M. no. 51901.

*Type locality*.—Castro, Paraná, Brazil.

Described from two females from the type locality.

RUPELA LARA, new species

PLATE 32, FIGURE 40

Wings white. Fore wing with veins 11 and 12 approximate; 4 and 5 approximate or connate. Hind wing with 4 and 5 approximate, connate or stalked. Anal tuft yellow.

Alar expanse, 20–36 mm.

Genitalia with genital plate developed as a stout, blunt, thorn-like process just in front of genital opening. On each side of genital opening a large, finely scobinate, sclerotized area. Membrane back of genital opening unpigmented and unsclerotized except that in the area near eighth segment collar there is a small, brown, sclerotized, external pocket. Genital opening behind apex of genital plate. Ductus not appreciably sclerotized.

*Type and paratypes*.—U.S.N.M. no. 51902.

*Type locality*.—Cabima, Panama (May).

*Remarks.*—Described from three females, the paratypes distributed as follows: PANAMA, Rio Trinidad (June), one; COSTA RICA, Guapiles (March), one.

## RUPELA MAENAS, new species

PLATE 31, FIGURES 36, 37

Wings white. Fore wing with veins 11 and 12 approximate; 4 and 5 closely approximate or connate. Hind wing with 4 and 5 connate or shortly stalked. Anal tuft yellow.

Alar expanse, 22–31 mm.

Genitalia with ductus bursae strongly sclerotized, brown and expanded into a laterally flattened bulb near genital opening. Genital plate developed as a narrow hoodlike piece in front and a broad, hooked, truncate flange behind genital opening (see pl. 31, fig. 36), the flange protruding from the area between the ventrolateral margins of the eighth segment collar. Genital opening nearly circular.

*Type and paratypes.*—U.S.N.M., no. 51903. Paratypes also in British Museum and Cornell University collections.

*Type locality.*—Ponte Nova (Rio Xingu), Brazil.

*Remarks.*—Described from eight females, the paratypes distributed as follows: FRENCH GUIANA, St. Laurent Maroni (March), one; BRITISH GUIANA, Kartabo (October), one, Mackenzie (June), two; SURINAM, Zanderij (April), two; BRAZIL, Castro (Paraná), one.

Easily identified by the bulbous, sclerotized ductus. I suspect it may be the female of *horridula*.

## RUPELA NEREIS, new species

PLATE 31, FIGURES 33, 34

Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 connate. Anal tuft yellow.

Alar expanse, 40 mm.

Genitalia with ductus bursae brown, sclerotized and tubular toward genital opening. Genital plate consisting of a pair of narrow lateral flaps extending backward from margin of genital opening and fusing with a flanged and hooked process, which protrudes between the ventrolateral margins of the eighth segment collar; strongly sclerotized, brown; apex of protruding flange abruptly tapering to a blunt point. Ventral area between collar and ovipositor strongly sclerotized, developed as a pair of elongate, shallow, somewhat rugose depressions. Genital opening semicircular.

*Type.*—In British Museum.

*Type locality.*—Castro, Paraná, Brazil.

*Remarks.*—Described from one female.

Apparently nearest to *maenas* but not to be confused with anything in the genus.

RUPELA ORBONA, new species

PLATE 31, FIGURE 35

Wings white. Fore wing with veins 11 and 12 separate; 4 and 5 connate. Hind wing with 4 and 5 shortly stalked. Anal tuft yellow.

Alar expanse, 30 mm.

Genitalia with genital plate triangular, brown, sclerotized, appressed to and no wider than ductus bursae; in ductus (at end of genital plate) a pale yellow, round, rugose thickening of the tube. Area behind genital opening sclerotized and pigmented, a smooth angulate plate, at its apex a dark brown, heavily sclerotized, elongately triangular, internal pocket. Genital opening slitlike.

*Type*.—In Cornell University collection.

*Type locality*.—Mackenzie, British Guiana (June).

Described from one female.

RUPELA PROCULA, new species

PLATE 32, FIGURE 41

Wings white. Fore wing with veins 11 and 12 separate or approximate; 4 and 5 approximate. Hind wing with 4 and 5 approximate or connate. Anal tuft yellow.

Alar expanse, 50–51 mm.

Genitalia with genital plate surrounding the genital opening, irregular, strongly sclerotized and pigmented; from the area behind opening a deep, strongly sclerotized internal pocket; beyond this, the area between the ventrolateral margins of the eighth segment collar is rugose, partially pigmented, and sclerotized. Ductus strongly sclerotized, dark, and laterally expanded towards genital opening. Genital opening large, irregular.

*Type and paratype*.—U.S.N.M. no. 51904.

*Type locality*.—Sta. Catherina, Brazil.

Described from two females, the paratype from Japelacio, Peru.

## EXPLANATION OF PLATES

The drawings for the plates accompanying this paper were made under the author's supervision by Mrs. Eleanor A. Carlin, of the Bureau of Entomology and Plant Quarantine. The female genitalia were drawn to smaller scale than those of the males.

### EXPLANATION OF SYMBOLS APPLIED TO GENITALIA

#### Male

- Cl*=Clasper of harpe.  
*Clh*=Basal projection from costa of harpe.  
*cn*=Cornutus (cornuti).  
*Cu*=Cucullus of harpe.  
*Gn*=Gnathos.  
*laGn*=Lateral arm of gnathos.  
*Ma*=Manica uniting anellus and aedeagus.  
*Sc*=Sacculus of harpe.  
*Tgsp*=Spur from ventrolateral margin of tegumen.  
*Tr*=Transtilla.  
*U*=Uncus.

#### Female

- Bc*=Bursa copulatrix.  
*Clr*=Collar of eighth abdominal segment.  
*Db*=Ductus bursae.  
*Ds*=Ductus seminalis.  
*Go*=Genital opening.  
*Gp*=Genital plate.  
*lm*=Lower margin of genital opening.  
*p*=Sclerotized pocket in area caudad of genital opening.

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### PLATE 22

- 1-1*d*. *Rupela leucateca* (Zeller): 1, Ventral view of male genitalia with aedeagus and one harpe omitted; 1*a*, anellus, dorsal view; 1*b*, aedeagus; 1*c*, lateral view of tegumen, uncus, and gnathos; 1*d*, dorsal view of uncus and gnathos.
- 2-2*d*. *Rupela albinella* (Cramer): 2, Ventral view of male genitalia with aedeagus and one harpe omitted; 2*a*, anellus, dorsal view; 2*b*, ventral and lateral views of aedeagus (the lateral view showing anellus attached); 2*c*, lateral view of tegumen, uncus, and gnathos; 2*d*, dorsal view of uncus and gnathos.
- 3-3*d*. *Rupela labcosa*, new species: 3, Ventral view of male genitalia with aedeagus and one harpe omitted; 3*a*, anellus, dorsal view; 3*b*, aedeagus; 3*c*, lateral view of tegumen, uncus, and gnathos; 3*d*, dorsolateral view of uncus and gnathos.

## PLATE 23

- 4-4c. *Rupela liberta*, new species: 4, Ventral view of male genitalia with aedeagus and one harpe omitted; 4a, dorsal view of anellus showing dorsal part and spines turned outward; 4b, dorsal view of anellus and spines in normal position; 4c, aedeagus.
- 5-5d. *Rupela pallidula*, new species: 5, Ventral view of male genitalia with aedeagus and one harpe omitted; 5a, anellus, dorsal view; 5b, aedeagus; 5c, lateral view of uncus and gnathos; 5d, dorsal view of uncus and gnathos.
- 6-6d. *Rupela segregata*, new species: 6, Ventral view of male genitalia with aedeagus and one harpe omitted; 6a, anellus, dorsal view; 6b, aedeagus; 6c, lateral view of uncus and gnathos; 6d, dorsolateral view of uncus and gnathos.

## PLATE 24

- 7-7d. *Rupela gibbera*, new species: 7, Ventral view of male genitalia with aedeagus and one harpe omitted; 7a, anellus, dorsal view; 7b, aedeagus with sclerotized manica; 7c, lateral view of uncus and gnathos; 7d, dorsal view of uncus and gnathos.
- 8-8c. *Rupela sactigera*, new species: 8, Ventral view of male genitalia with aedeagus and one harpe omitted; 8a, anellus, dorsal view; 8b, aedeagus with sclerotized manica; 8c, dorsal view of uncus and gnathos.
- 9-9c. *Rupela tinctella* (Walker): 9, Ventral view of male genitalia with aedeagus and one harpe omitted; 9a, anellus, dorsal view; 9b, aedeagus; 9c, lateral view of uncus and gnathos.

## PLATE 25

- 10-10c. *Rupela nirca* Walker: 10, Ventral view of male genitalia with aedeagus and one harpe omitted; 10a, anellus, dorsal view; 10b, aedeagus; 10c, lateral view of uncus and gnathos from abnormal specimen from Castro, Brazil.
- 11-11c. *Rupela vexativa*, new species: 11, Ventral view of male genitalia with aedeagus and one harpe omitted; 11a, anellus, dorsal view; 11b, aedeagus; 11c, dorsal view of uncus and gnathos.
- 12-12b. *Rupela cornigera*, new species: 12, Ventral view of male genitalia with aedeagus and one harpe omitted; 12a, anellus, dorsal view; 12b, aedeagus.

## PLATE 26

- 13-13c. *Rupela imitativa*, new species: 13, Ventral view of male genitalia with aedeagus and one harpe omitted; 13a, anellus, dorsal view; 13b, aedeagus; 13c, dorsal view of uncus and gnathos.
- 14-14c. *Rupela scjuncta*, new species: 14, Ventral view of male genitalia with aedeagus and one harpe omitted; 14a, anellus, dorsal view; 14b, aedeagus with attached manica; 14c, lateral view of uncus and gnathos.
- 15-15c. *Rupela scitula*, new species: 15, Ventral view of male genitalia with aedeagus and one harpe omitted; 15a, anellus, dorsal view; 15b, aedeagus; 15c, lateral view of tegumen, uncus, and gnathos.



## PLATE 27

- 16-16c. *Rupela adunca*, new species: 16, Ventral view of male genitalia with aedeagus and one harpe omitted; 16a, anellus, dorsal view; 16b, aedeagus; 16c, dorsal view of uncus and gnathos.
- 17-17c. *Rupela lumaria*, new species: 17, Ventral view of male genitalia with aedeagus and one harpe omitted; 17a, anellus, dorsal view; 17b, aedeagus; 17c, dorsal view of uncus and gnathos.
- 18-18f. *Rupela horridula*, new species: 18, Ventral view of male genitalia with aedeagus and one harpe omitted; 18a, anellus, dorsal view; 18b, aedeagus with anellus attached, lateral view; 18c, apex of aedeagus lateral view showing cornutus (*cn*) on penis; 18d, 18e, lateral views of uncus and gnathos in two specimens showing extremes of variation in the uncus; 18f, dorsal view of gnathos and uncus.

## PLATE 28

- 19-19c. *Rupela spinifera*, new species: 19, Ventral view of male genitalia with aedeagus and one harpe omitted; 19a, anellus, dorsal view, 19b, aedeagus; 19c, dorsal view of uncus and gnathos.
- 20-20c. *Rupela monstrata*, new species: 20, Ventral view of male genitalia with aedeagus and one harpe omitted; 20a, anellus, dorsal view; 20b, aedeagus; 20c, dorsal view of uncus and gnathos.

## PLATE 29

21. *Rupela bendis*, new species: Female genitalia.
22. *Rupela faustina*, new species: Female genitalia.
23. *Rupela canens*, new species: Female genitalia.
24. *Rupela drusilla*, new species: Female genitalia.
25. 25a. *Rupela candace*, new species: 25, Female genitalia, the projection to the side showing lateral view of genital opening, genital plate, and sclerotized pocket; 25a, dorsal view of collar of eighth abdominal segment.
- 26-26b. *Rupela albinella* (Cramer): 26, Female genitalia; 26a, lateral view of organs with bursa omitted; 26b, ventral view of genital plate and opening and eighth segment collar, from a specimen showing extreme of variation from normal specimens.

## PLATE 30

27. *Rupela herie*, new species: Female genitalia.
28. *Rupela gaia*, new species: Female genitalia.
29. *Rupela edusa*, new species: Female genitalia.
30. *Rupela leucatea* (Zeller): Female genitalia.
31. *Rupela antonia*, new species: Female genitalia.
32. *Rupela segregata*, new species: Female genitalia.

## PLATE 31

- 33, 34. *Rupela nereis*, new species: 33, Lateral view of femal genitalia; 34, ventral view.
35. *Rupela orbona*, new species: Female genitalia, the projection to the side showing lateral view of genital opening, genital plate, and sclerotized pocket.

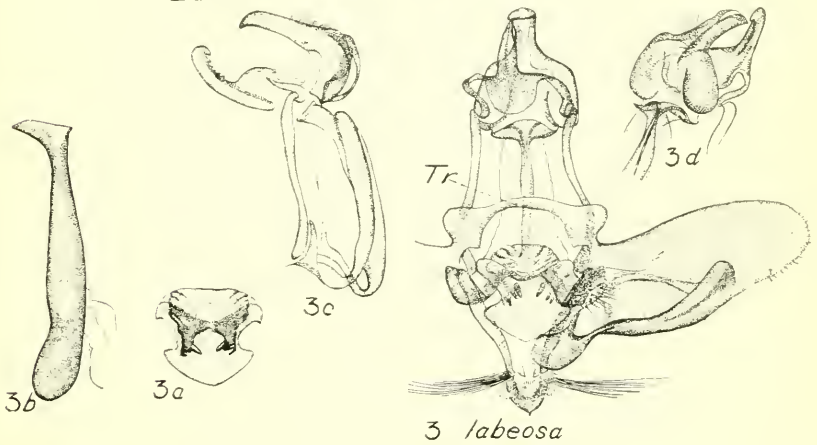
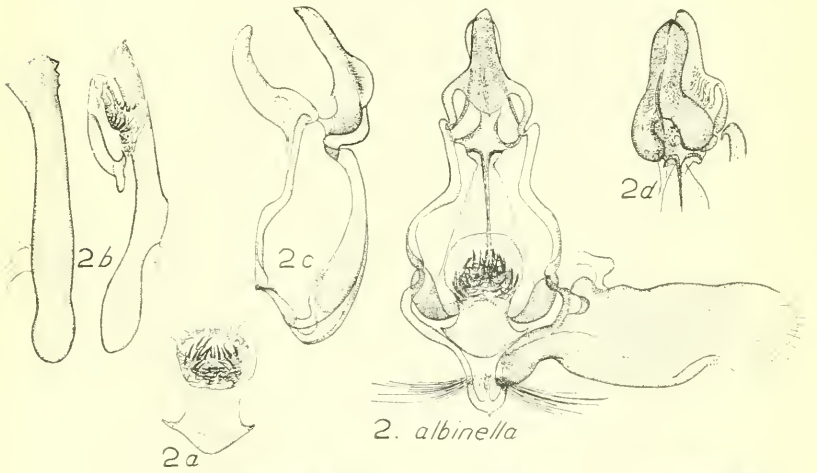
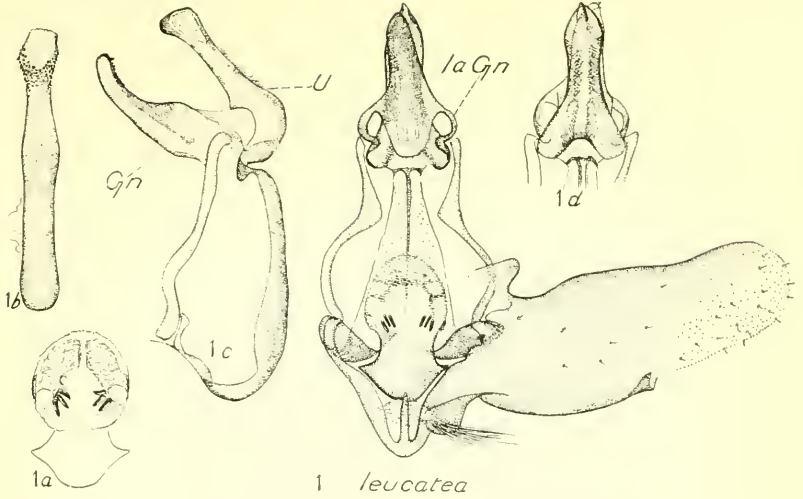
- 36, 37. *Rupela maenas*, new species: 36, Lateral view of female genitalia; 37, ventral view.  
38. *Rupela jana*, new species: Female genitalia.

## PLATE 32

39. *Rupela sejuncta*, new species: Female genitalia.  
40. *Rupela lara*, new species: Female genitalia.  
41. *Rupela procula*, new species: Female genitalia.  
42, 43. *Rupela tinctella* (Walker): 42, Lateral view of female genitalia; 43, ventral view.

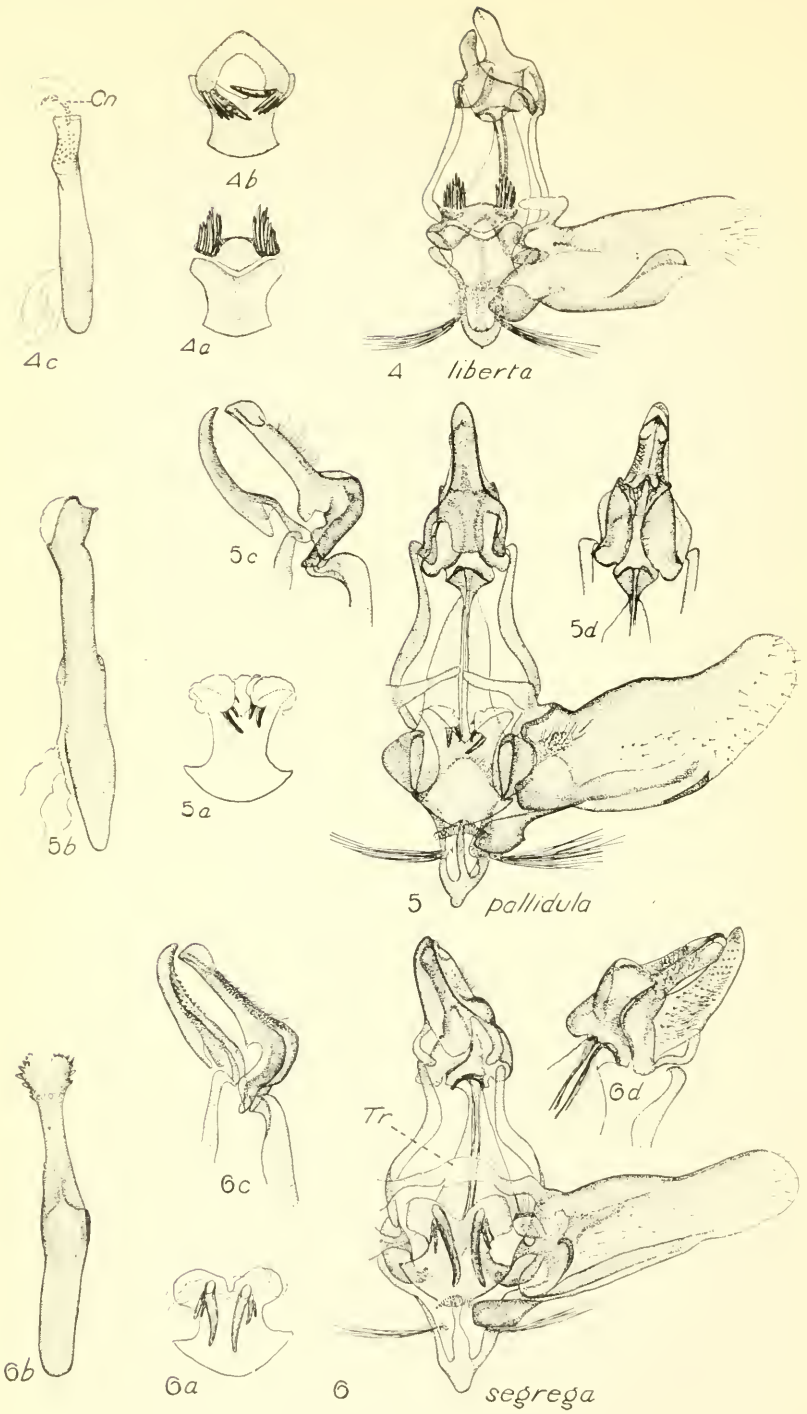
## PLATE 33

- 44, 45, 48. *Rupela leucatea* (Zeller): 44, Seventh abdominal segment of female, showing sclerotization of sternite; 45, ventral view of eighth abdominal segment of male and part of seventh, showing sclerotized plates and scale tuft; 48, side view of head and expanded thoracic hair tuft.  
46. *Rupela tinctella* (Walker): Seventh abdominal segment of female, ventral view, showing sclerotization.  
47. *Rupela horridula*, new species: Venation of fore and hind wings.



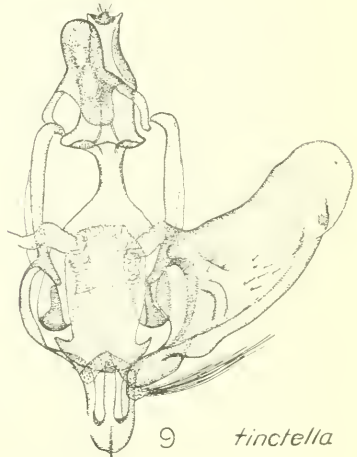
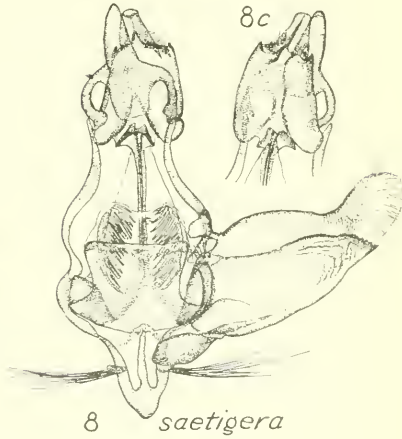
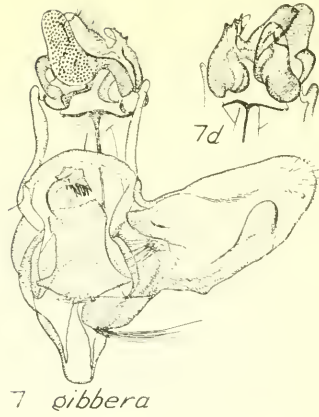
MOTHS OF GENUS RUPELA: MALE GENITALIA.

FOR EXPLANATION OF PLATE SEE PAGE 385.



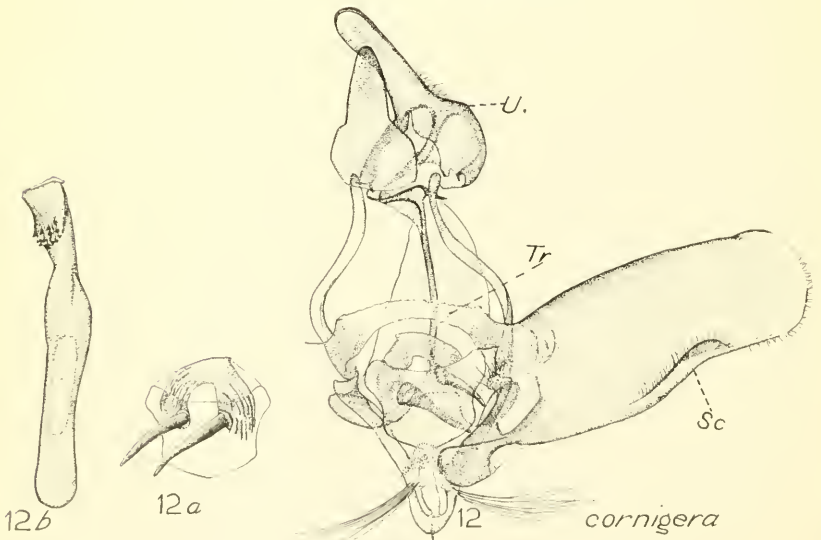
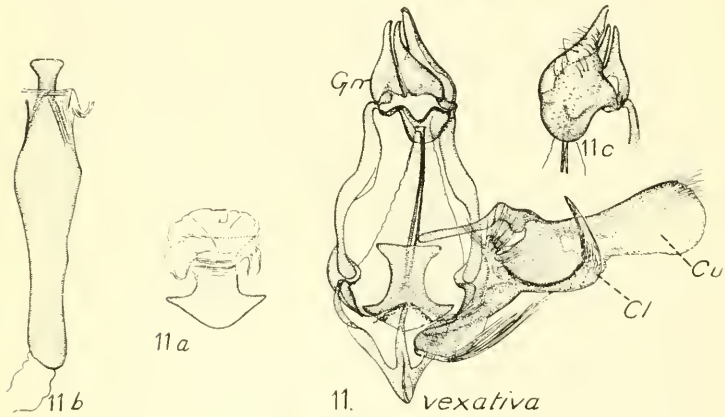
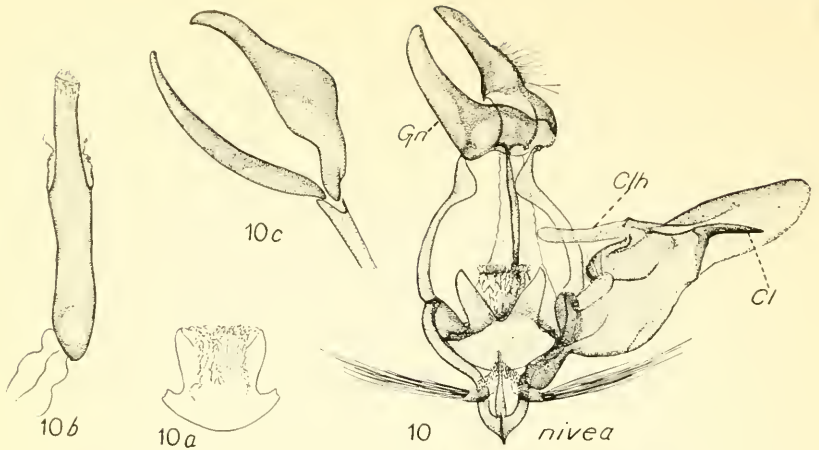
MOTHS OF GENUS RUPELA: MALE GENITALIA.

FOR EXPLANATION OF PLATE SEE PAGE 356.



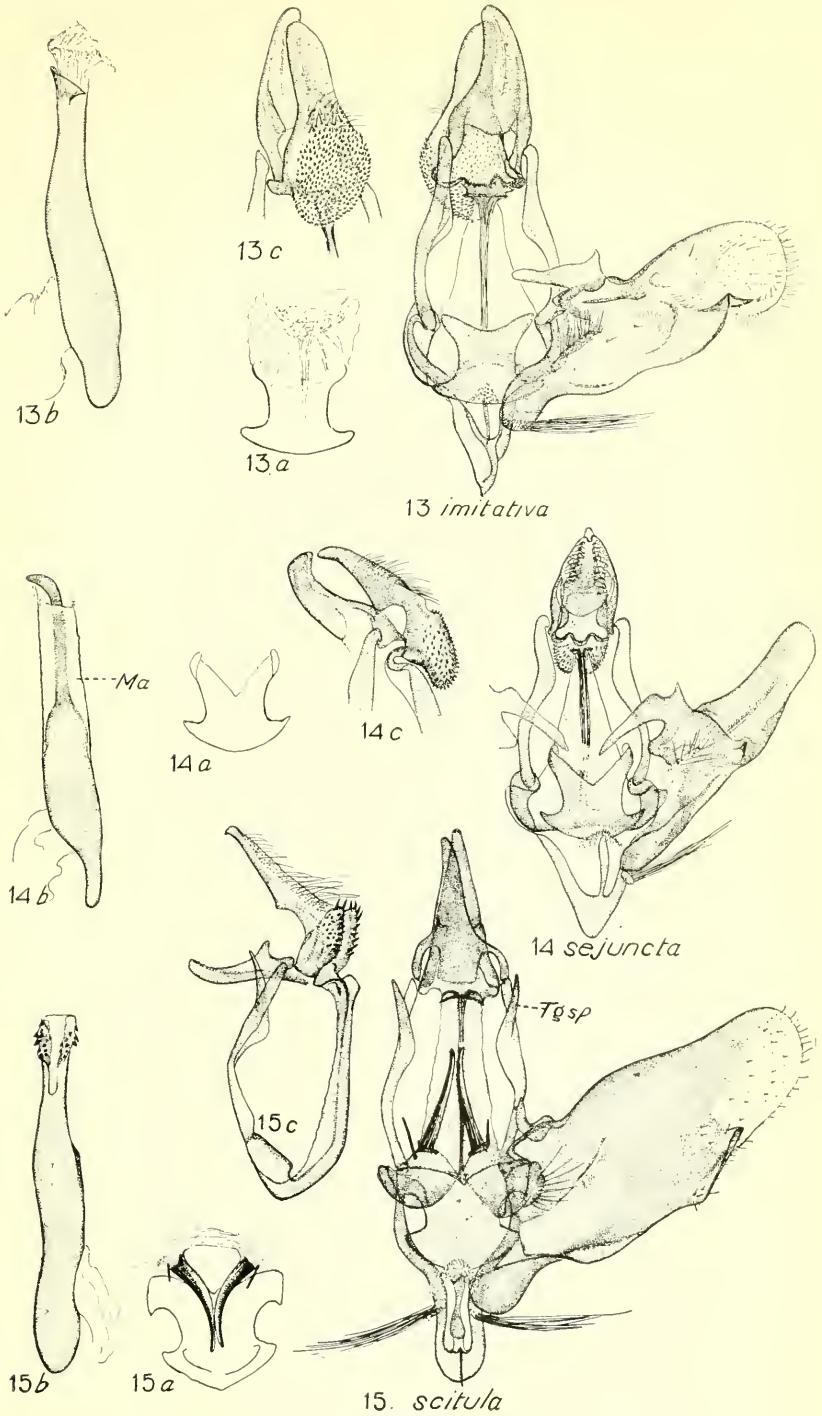
MOTHS OF GENUS RUPELA: MALE GENITALIA.

FOR EXPLANATION OF PLATE SEE PAGE 336.



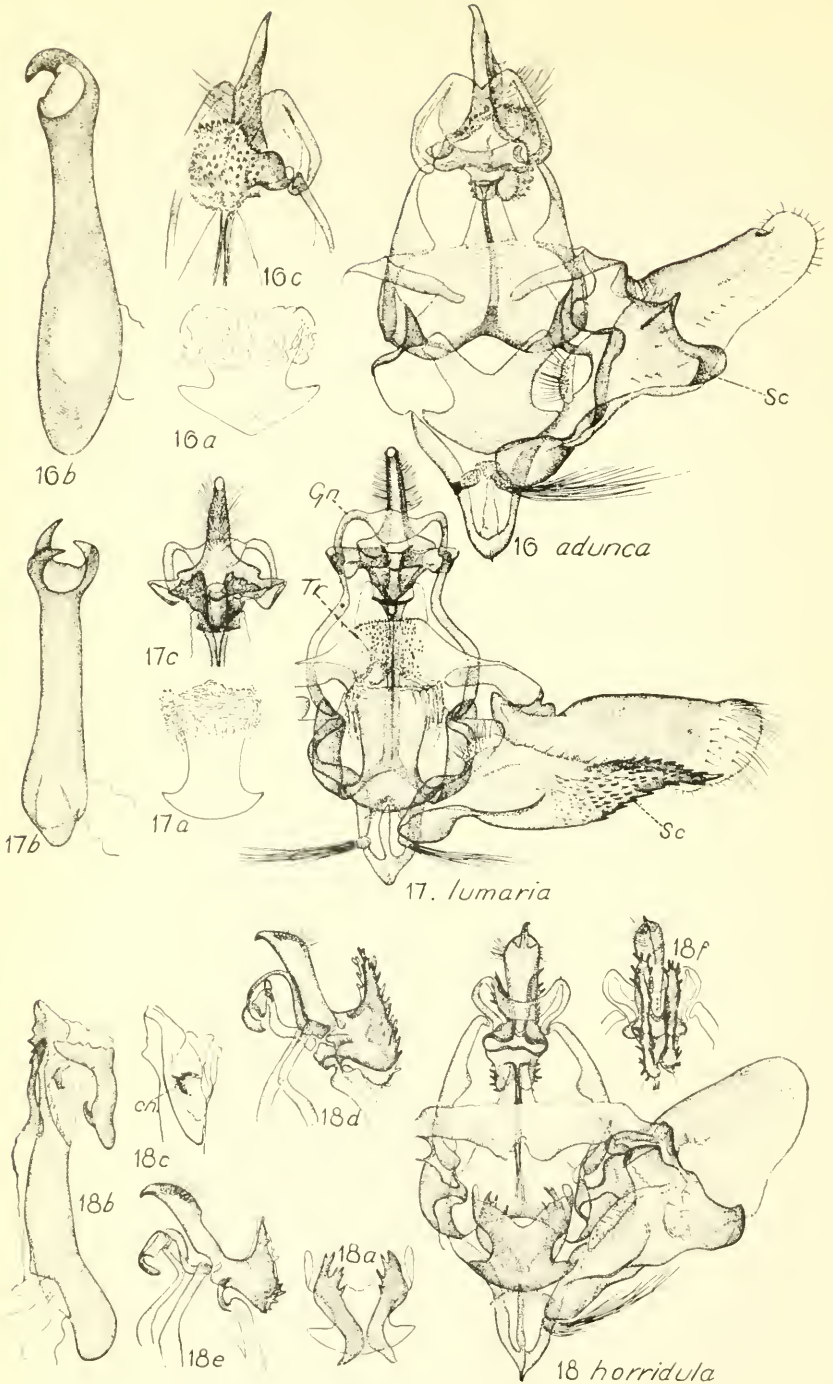
MOTHS OF GENUS RUPELA: MALE GENITALIA.

FOR EXPLANATION OF PLATE SEE PAGE 386



MOTHS OF GENUS *RUPELA*: MALE GENITALIA.

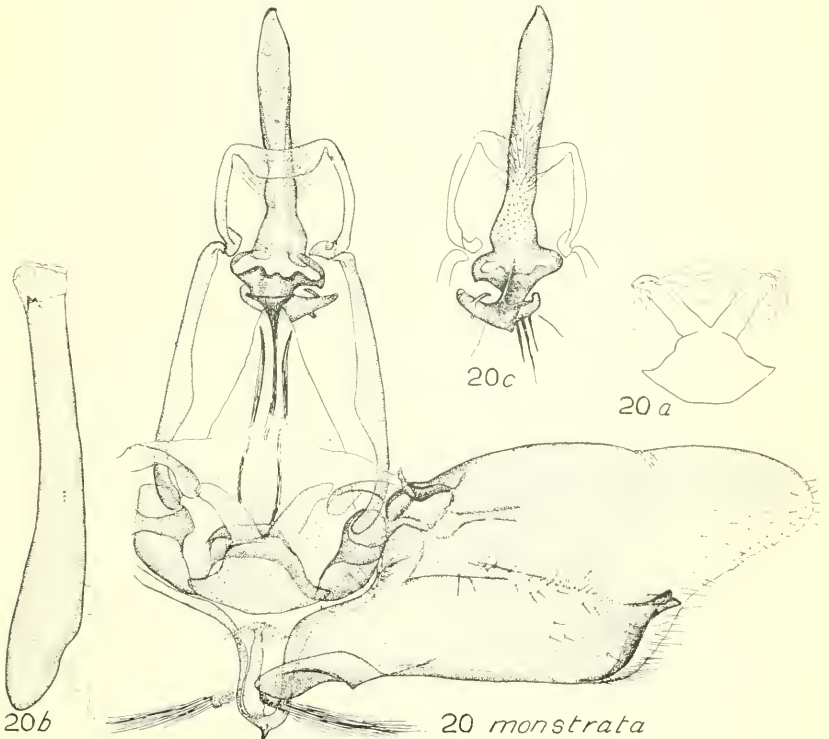
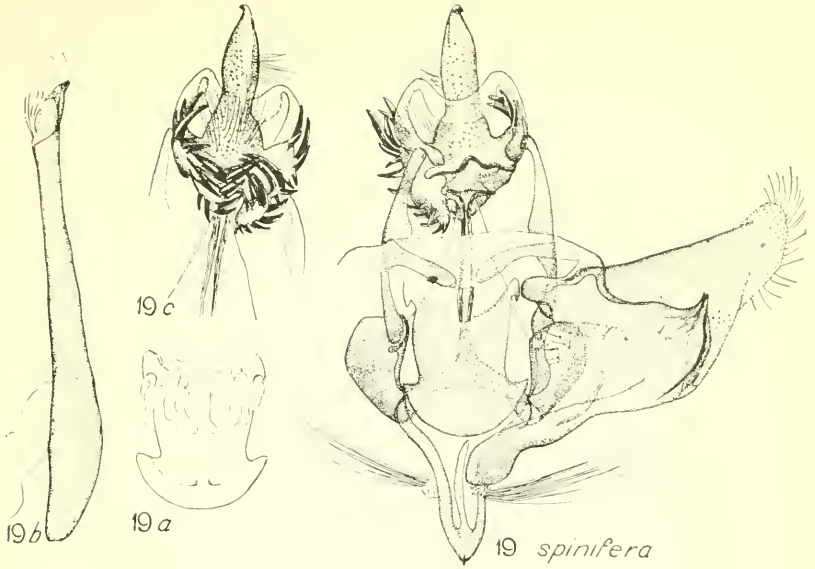
FOR EXPLANATION OF PLATE SEE PAGE 386.



MOTHS OF GENUS RUPELA: MALE GENITALIA.

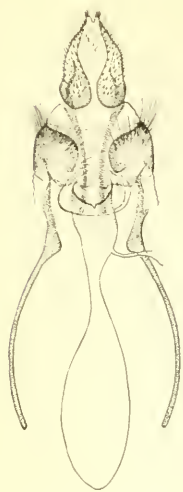
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MOTHS OF GENUS RUPELELA: MALE GENITALIA.

FOR EXPLANATION OF PLATE SEE PAGE 387.



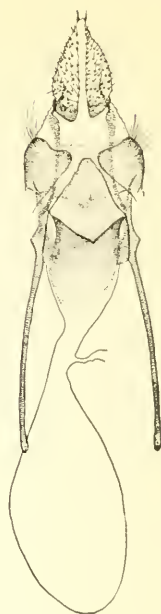
21 *bendis*



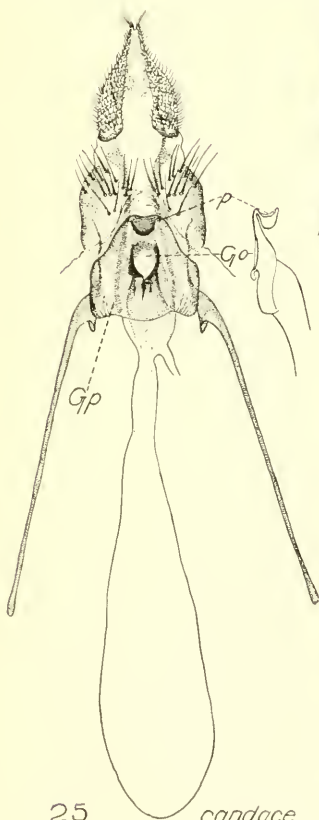
22 *faustina*



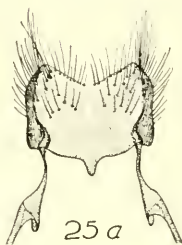
23 *canens*



24 *drusilla*



25 *candace*



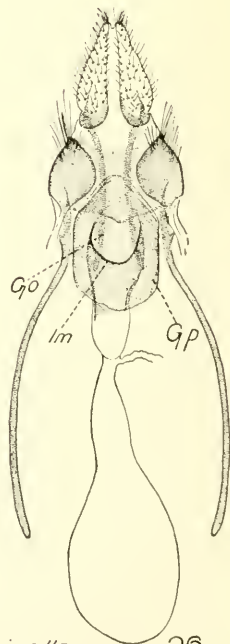
25 a



26 a



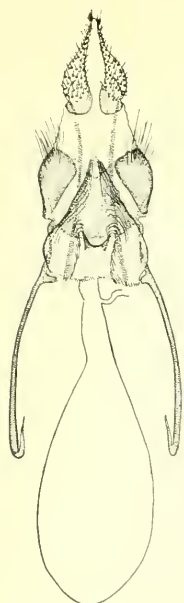
26 b *albinella*



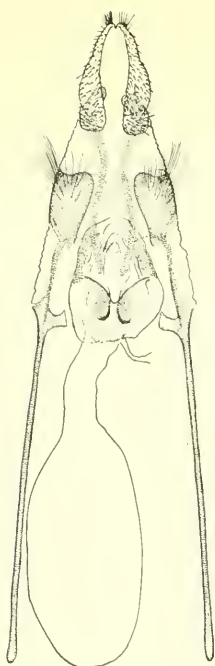
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MOTHS OF GENUS RUPELA: FEMALE GENITALIA.

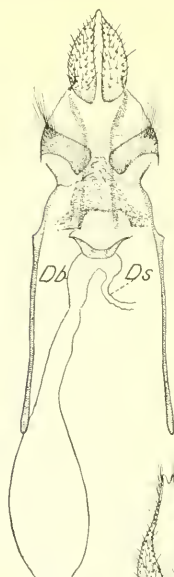
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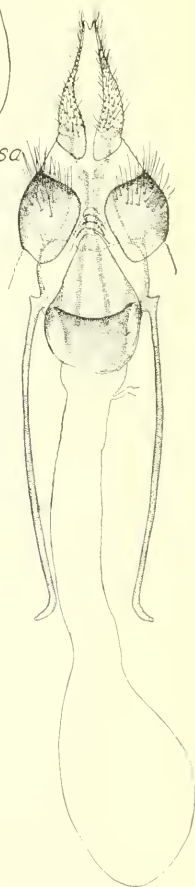
27 *herie*



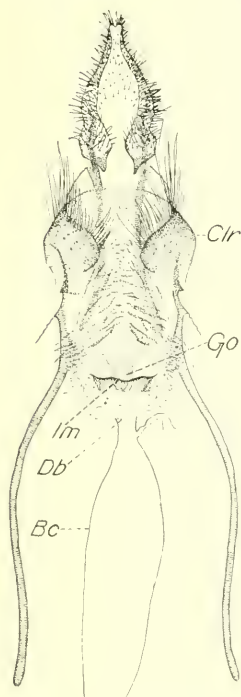
28 *gaia*



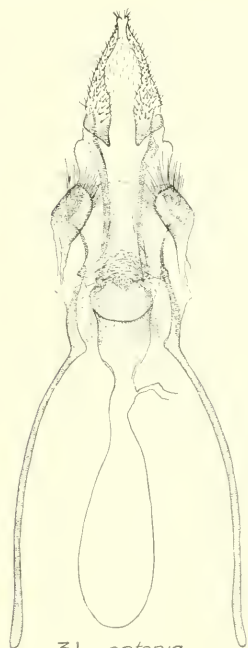
29 *edusa*



32 *segregata*



30 *leucatea*



31 *antonia*

MOTHS OF GENUS *RUPELA*: FEMALE GENITALIA.

FOR EXPLANATION OF PLATE SEE PAGE 387.



33 *nereis*



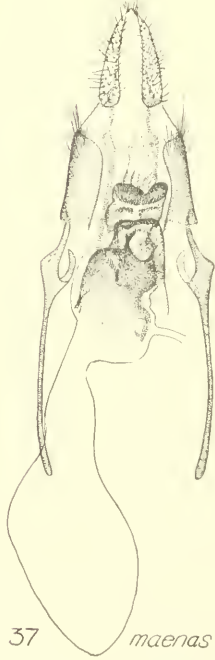
34 *nereis*



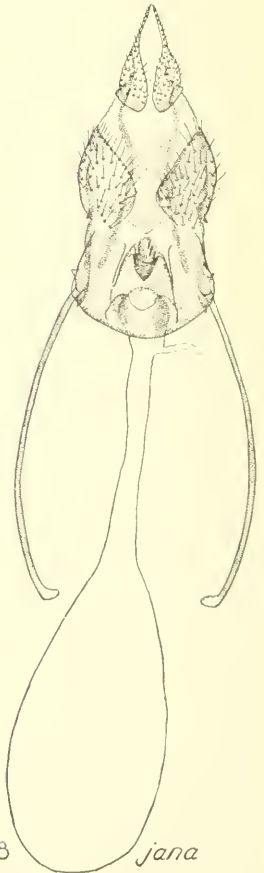
35 *orbona*



36 *maenas*



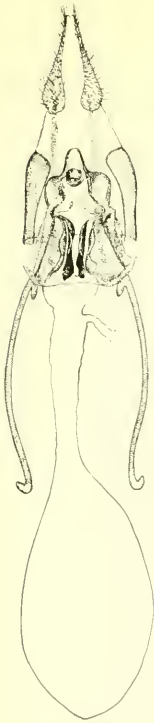
37 *maenas*



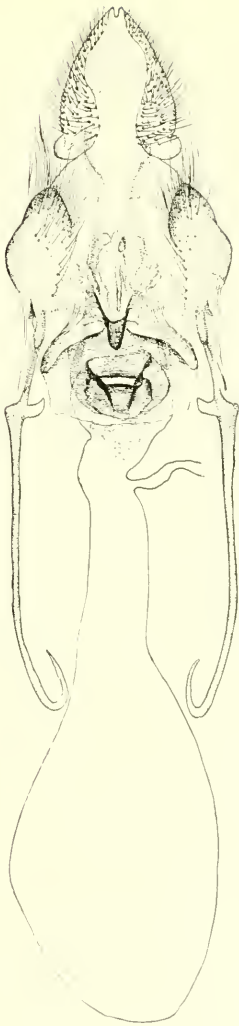
38 *jana*

MOTHS OF GENUS RUPELA: FEMALE GENITALIA.

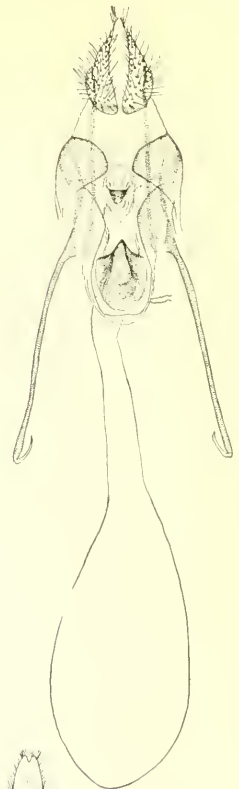
FOR EXPLANATION OF PLATE SEE PAGES 397-388.



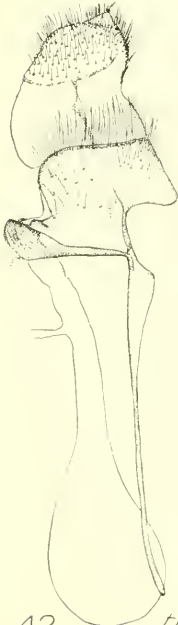
39 *sejuncta*



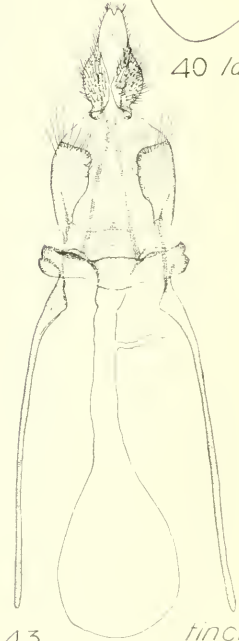
41 *procula*



40 *lara*



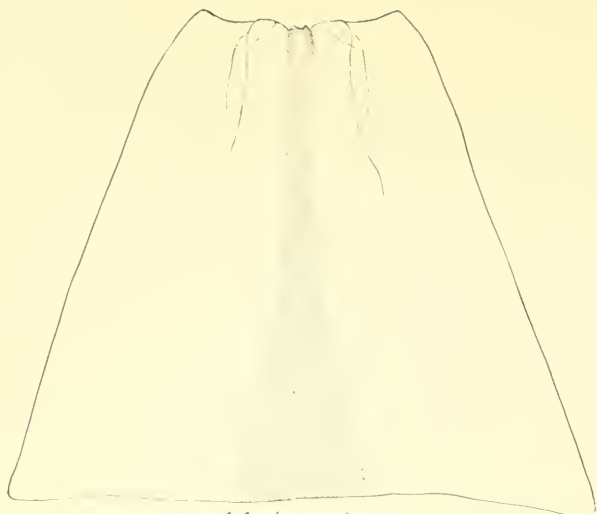
42 *tinctella*



43 *tinctella*

MOTHS OF GENUS RUPELA: FEMALE GENITALIA.

FOR EXPLANATION OF PLATE SEE PAGE 399.



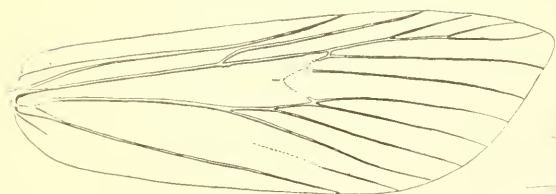
44. *leucatea*



45. *leucatea*



46. *tinctella*



47. *horridula*



48. *leucatea*

