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MOTHS OF THE GENUS *CINCIA* AND THREE NEW AND
CLOSELY RELATED GENERA

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THE genera of moths treated herein (family Arctiidae: subfamily Lithosiinae) are indigenous and restricted to Jamaica. Until the present time they have been treated as a single genus with two species, *Cincia pallida* Butler and *C. conspersa* Walker. A careful study of 200 specimens from the collections of the United States National Museum, the British Museum of Natural History, the American Museum of Natural History, and the Carnegie Museum disclosed four genera and ten species involved in the complex.

Venational characters are much the same in the four closely related genera. In order to avoid repetition in the generic descriptions these common characters are given here: Venation of forewing with vein 2 from past middle of cell and from outer third or before; vein 3 from just before lower angle of cell; 4 and 5 separate or extremely short stalked or connate from lower angle of cell; 6 from below upper angle; 7 from stalk of 8 and 9; 10 and 11 free; 10 from middle or nearer stem 7, 8, and 9 than 11; 11 from beyond middle of cell and curved toward 12, distally coincident with 12. Venation of hind wing with vein 2 from outer third of cell or beyond; 3 stalked with 4 from lower angle of cell or sometimes connate with 4 and 5 and rarely separate from 4 and 5; 5 absent or present and stalked with 4; 6 and 7 stalked from upper angle of cell; 8 from before middle of cell.

KEY TO THE GENERA TREATED, BASED PRINCIPALLY UPON GENITALIA

1. Female with bursa copulatrix armed internally with large circling of clawlike spines, this circling well below opening of ductus bursae (pl. 9, figs. 14, 15).
 Paracincia,¹ new genus
 Female with bursa copulatrix armed internally with a small circling of clawlike or thornlike spines, this circling at or near opening of ductus bursae (pl. 7; pl. 8, figs. 11, 13)----- 2
2. Antenna of male filiform; male with gnathos greatly reduced or absent (pl. 9, fig. 16); female with bursa copulatrix lacking internal circling and with 2 signa (pl. 9, fig. 17)----- *Parvicincia*, new genus
 Antenna of male bipectinate; male with gnathos well developed and divided (pl. 6); female with bursa copulatrix containing internal circling and with a single signum----- 3
3. Male with gnathos divided into 2 slender, smooth arms (pl. 8, figs. 10, 12); female with a pair of free lobes from ostium bursae plate and with a single small buttonlike posterior genital plate on eighth sternum (pl. 8, figs. 11, 13).
 Cincia Walker
 Male with gnathos divided into 2 large lobelike or fingerlike denticulate arms (pl. 6); female without free lobes from ostium bursae plate and with a pair of posterior genital plates on eighth sternum or, if only a single plate, this plate not buttonlike (pl. 7)----- *Amplincincia*, new genus

AMPLINCINCIA, new genus

Type: *Cincia pallida* Butler.

Labial palpus upturned, not appressed; short or moderate, not reaching vertex of head (in ventral view).

Antenna of male bipectinate, with pectinations narrowly or broadly fused at base, originating ventrally from posterior half of subsegments; pectinations shorter or longer than width of subsegments and each pectination with two bristles, one subapical and the second shorter and below the first. Pectinations ciliate (hairs as long as width of pectination). Antenna of female filiform and gradually more slender to the tip; subsegments pubescent and each with two pairs of bristles, one from near or above middle of ventrolateral margin and the second just behind the first.

Venation as described for the group.

Male genitalia (pl. 6) with curved and hooklike uncus terminating in a constricted and somewhat elongate point; gnathos present and divided, forming two denticulate arms; anellus present and with a ventral plate or juxta and with two small dorsal plates or with ventral and dorsal plates entirely fused; vinculum subtriangular or rounded and longer than wide; harpe with clavus from sacculus (although clavus is sometimes greatly reduced) and with a transtilla from costa; transtilla elongate and fingerlike; aedeagus somewhat undulate and armed distally with an abruptly bent blunt point or with several large teeth or spurlike points; bulbus ejaculatorius dorsally from near middle or from middle third of aedeagus; vesica with cornuti lacking and with numerous scobinations.

¹ Males unknown.

Female genitalia (pl. 7) with a broadly curved or bilobed transverse ridgelike plate (the anterior genital plate) on seventh sternum and with shallow cupules beyond either end of this transverse plate; ostium bursae plate fused with anterior genital plate and bilobed, with lobes not free; eighth sternum with a pair of plates (the posterior genital plates) above and separate from ostium bursae plate or sometimes with this pair fused and reduced in size; bursa copulatrix armed internally with a small circle of clawlike or thornlike spines near opening of ductus bursae; bursa copulatrix subspherical, not much longer than broad and with a single denticulate platelike signum near or above middle.

Comparative remarks.—This genus is most closely related to *Cincia* Walker but is easily distinguished by the male and female genitalia. The chief differences are in the male gnathos arms, these arms being smooth in *Cincia* and denticulate in *Amplificincia*, and also in the presence of a clavus from the sacculus of the harpe in *Amplificincia*. In the females the chief differences are in the presence of free posterior lobes from the ostium bursae plate in *Cincia* and in the absence of these free lobes in *Amplificincia*.

Included in this genus are *Amplificincia pallida* (Butler), *A. mixta* (Möschler), and three new species: *fletcheri*, *lathyi*, and *walkeri*.

KEY TO THE SPECIES OF AMPLICINCIA

- | | |
|--|--------------------------------|
| 1. Males..... | 2 |
| Females..... | 6 |
| 2. Juxta spheroidal and spiniferous (pl. 6, fig. 2)..... | <i>pallida</i> (Butler) |
| Juxta not as above..... | 3 |
| 3. Harpe with clavus long and fingerlike and ending in 2 large strong spurs (pl. 6, fig. 4)..... | <i>mixta</i> (Möschler) |
| Harpe with clavus not as above..... | 5 |
| 4. Harpe with clavus short and bluntly triangular (pl. 6, fig. 5). | <i>fletcheri</i> , new species |
| Harpe with clavus not as above..... | 5 |
| 5. Clavus near apex of harpe; anellus with juxta and dorsal plates fused into a single plate (pl. 6, fig. 3)..... | <i>walkeri</i> , new species |
| Clavus near base of harpe; anellus with dorsal plates present and not fused with juxta (pl. 6, fig. 1)..... | <i>lathyi</i> , new species |
| 6. Transverse ridge along anterior margin of seventh sternum bilobed; a single bilobed plate on eighth sternum beyond ostium bursae (pl. 7, fig. 9). | <i>mixta</i> (Möschler) |
| Transverse ridge along anterior margin of seventh sternum broadly curved; 2 large plates on eighth sternum beyond ostium bursae..... | 7 |
| 7. Circle of thornlike spines near opening of ductus bursae separate and small (pl. 7, fig. 6)..... | <i>lathyi</i> , new species |
| Circle of spines with spines large and clawlike and connected at their bases to a curved plate..... | 8 |
| 8. Posterior genital plates taken together larger than ostium bursae plate; ostium bursae plate with elongate narrow lobes (pl. 7, fig. 8)..... | <i>fletcheri</i> , new species |
| Posterior genital plates taken together smaller than ostium bursae plate; ostium bursae plate with short broad lobes (pl. 7, fig. 7)..... | <i>pallida</i> (Butler) |

AMPLICINCIA PALLIDA (Butler)

Cincia pallida BUTLER, Proc. Zool. Soc. London, 1878, p. 484.—HAMPSON, Catalogue of the Lepidoptera Phalaenae in the British Museum, vol. 2, p. 388, 1900.—DRAUDT, in Seitz, Gross-schmetterlinge der Erde, vol. 6, p. 252, 1918.—STRAND, in Wagner, Lepidopterorum catalogus, pars 26, p. 733, 1922. *Aemene pallida* (Butler), KIRBY, A synonymic catalogue of Lepidoptera Heterocera, p. 366. 1892.

Male.—Palpus light gray at apex and below, dark brown above. Antenna and head white or light gray, sometimes tinged with yellow and with a dark-brown or black spot in middle of vertex. Mesoscutum gray, patagium and tegula dark gray sprinkled with a few black scales, sometimes lighter and often tinged with pale yellow. Tegula with a black spot at base along inner side, this spot usually covered by the patagium. Mesoscutellum gray, suffused with pale yellow, a pair of small black spots along posterior margin. Foreleg along inner side of femur and tibia fuscous, a black spot in middle of tibia and with apex of first tarsal segment and all of second through fifth tarsal segments dark brown or black. Midtibia with a large black spot in middle. Hind legs and remainder of forelegs and midlegs light gray. Abdomen ochraceous-white to light gray below, darker above. Forewing above grayish white streaked with pale-yellowish suffusion and irrorated with black scales and with numerous black spots arranged as follows: A small basal spot in middle of wing; a similar spot on base of costa; an oblique series of three spots, subbasal in position; an antemedial series of four spots bent inward to costa and outward above inner margin; medial spots on costa and between cell and base of vein 2; a spot at upper angle and one at lower angle of cell and one on costa above these and below middle of vein 2; several subapical spots at costa and below veins 6 and 5; five or six marginal spots between veins at outer margin. Fringe grayish white or sometimes paler. Forewing below, hind wing above and below, fuscous except for pale areas along inner margin of underside of forewing. Specialized scales in a patch above cell on upperside of hind wing brown.

Length of forewing, 9–11.5 mm.

Male genitalia (pl. 6, fig. 2) with characters as given in the key.

Female.—Habitus like that of male, usually with more yellow suffusion on forewing above and without patch of specialized scales on hind wing above.

Length of forewing, 10–14 mm.

Female genitalia (pl. 7, fig. 7) with characters as given in the key.

Type locality.—Jamaica (at or near Kingston).

Additional type data.—Holotype of *pallida* is a female (Jamaica; ♀ genitalia preparation, British Museum No. 1947–266).

Location of type.—In British Museum.

Distribution.—JAMAICA: *St. Thomas Parish*, Bath (Mar. Apr., July), Morant Bay (July); *St. Andrew Parish*, Kingston, Newcastle; *St.*

Catherine Parish, Constant Spring (July, Aug.); *St. Ann Parish*, Claremont (Mar., Apr.), Moneague (May, June, July); *Manchester Parish*, Mandeville (Nov., Dec., Jan., Mar., Apr.); *Trelawny Parish*, Baron Hill (Mar.); *St. Elizabeth Parish*, Balaclava (Apr.), Santa Cruz, (Apr.); *St. James Parish*, Montego Bay (Dec.). Other localities in Jamaica for which the parish is unknown: Castle Daly (Apr.), May Hill (July), Hill Gardens (Oct.).

Sixty-two specimens examined.

Remarks.—The genitalia of the type of *pallida* were compared with the figure of the female of this species (pl. 7, fig. 7) by D. S. Fletcher, of the Department of Entomology, British Museum of Natural History. He found the type of *pallida* to be the species there illustrated.

AMPLICINCIA FLETCHERI,² new species

Male.—Palpus, antenna, and head entirely like *Amplicincia pallida* or slightly darker. Fore and hind wings very similar to *pallida*, black spots of forewing slightly smaller.

Length of forewing, 8.5–9.5 mm.

Male genitalia (pl. 6, fig. 5) with characters as given in the key.

Female.—Habitus like that of male, without patch of specialized scales along costal area of hind wing above. Similar to female *Amplicincia pallida*. Forewing with black spots indistinct, tending toward obsolescence and with yellowish suffusion more extensive than in *pallida*.

Length of forewing, 14 mm.

Female genitalia (pl. 7, fig. 8) with characters as given in the key.

Type locality.—Bath, St. Thomas Parish, Jamaica.

Additional type data.—Described from the holotype, male (locality as listed above; April 3, 1937; ♂ genitalia preparation W.D.F. No. 3031, 1949); allotype, female (Jamaica; ♀ genitalia preparation W.D.F. No. 2424, 1947); paratype no. 1, male (near Troy, Trelawny Parish, Jamaica; June 14–15, 1909; ♂ genitalia preparation W.D.F. No. 2432, 1947); paratype No. 2, male (Maud, Jamaica; April 13, 1937; ♂ genitalia preparation W.D.F. No. 3032, 1949); paratype No. 3, female (Jamaica; ♀ genitalia preparation W.D.F. No. 3022, 1949).

Location of types.—Holotype in Carnegie Museum. Allotype and paratype No. 2 in United States National Museum. Paratype No. 1 in American Museum of Natural History. Paratype No. 3 in British Museum of Natural History.

Distribution.—JAMAICA: *St. Thomas Parish*, Bath (Apr.); *Trelawny Parish*, Maud (Apr.), near Troy (June).

Five specimens examined.

Comparative remarks.—This species is more clearly related to *pallida* than to any of the other species in the genus. It is easily distinguished

² Named for D. S. Fletcher, of the Department of Entomology, British Museum of Natural History.

from *pallida* by the characters of the male and female genitalia given in the key and illustrated on plate 6, figure 5, and plate 7, figure 8.

AMPLICINCIA LATHYI, new species

Male.—Palpus entirely dark brown or sometimes, as in the holotype, with a few light-gray scales at apex and in middle underneath. Antenna and frons dark brown, with numerous scattered white scales. Base of antennae entirely white (holotype) or dark brown, with numerous white or yellow scales. Vertex of head entirely yellow except for a dark brown spot in the middle. Yellow along foremargins of patagia and tegulae. Remainder of patagia and tegulae and the mesoscutellum dark grayish brown with yellow and with a pair of black spots along posterior margin. Fore and mid legs dark brown along inner side of femur, through middle and at apex of tibia. Base of first tarsal segment light brown, apex and rest of tarsal segments dark brown except lighter brown at tip of the fifth segment. Hind femur ochraceous-white, hind tibia dark brown. Forewing above dark grayish brown, with numerous black spots as in *Amplicincia pallida* and with three large transverse bands of yellow, one in the base below costa, the second and longest below cell in the middle of wing, and the third subapical. The second transverse band broken into three sections by large black spots. Fringe along outer margin white. Hind wing above and below dark fuscous, with patch of specialized scales along costal margin paler than remainder of wing.

Length of forewing, 12 mm. in the holotype and in two paratypes; 16 and 17 mm. in two paratypes.

Male genitalia (pl. 6, fig. 1) with characters as given in the key.

Female.—Habitus like that of male and without patch of specialized scales along costal area of hind wing above.

Length of forewing, 15 mm.

Female genitalia (pl. 7, fig. 6) with characters as given in the key.

Type locality.—Jamaica.

Additional type data.—Described from the holotype, male (Jamaica; J. M. St. J. Yates; ♂ genitalia preparation W.D.F. No. 3028, 1949); allotype, female (Jamaica; ♀ genitalia preparation, British Museum No. 1947-271); paratype No. 1, male (same data as the holotype; ♂ genitalia preparation W.D.F. No. 3027, 1949); paratype No. 2, male (same data as holotype; ♂ genitalia preparation, British Museum No. 1947-270); paratype No. 3, male (Jamaica; P. I. Lathy; ♂ genitalia preparation W.D.F. No. 3030, 1949) and paratype No. 4, male (Jamaica; P. I. Lathy; ♂ genitalia preparation W.D.F. No. 3029, 1949.)

Location of types.—Holotype, allotype, and paratypes Nos. 2 and 4 in British Museum of Natural History. Paratypes Nos. 1 and 3 in United States National Museum.

Distribution.—Jamaica (further locality information unknown).

Six specimens examined.

Comparative remarks.—The three transverse yellow bands on the upper surface of the forewing immediately distinguish this species from the other members of the genus. In the male genitalia (pl. 6, fig. 1) the aedeagus, harpe, anellus, and gnathos and in the female genitalia (pl. 7, fig. 6) the transverse plate of seventh sternum, the ostium bursae plate, and the cupules separate this species from its relatives.

AMPLICINCIA MIXTA (Möschler)

Autoceras mixta MÖSCHLER, Abh. Senckenb. naturf. Ges. vol. 14, p. 31, fig. 4, 1886.

Aemene mixta (Möschler), KIRBY, A synonymic catalogue of Lepidoptera Heterocera, p. 368, 1892.

Cincia pallida Butler, HAMPSON (*nec* Butler), in part (*Autoceras mixta* Möschler), Catalogue of the Lepidoptera Phalaenae in the British Museum, vol. 2, p. 388, 1900.

Male.—Palpus light gray at apex, dark brown above, with a few light-gray scales in middle below. Antenna and frons dark gray or brown, with a few scattered pale-gray scales. Vertex of head yellow with scattered gray scales and with a dark brown spot in the middle. Yellow along fore and inner margins of patagium. Mesoscutellum dark gray suffused with yellow and with a pair of dark-gray spots along posterior margin. Foreleg dark brown along inner side of femur, through middle and at apex of tibia, at apex of first tarsal segment, and from first through fifth tarsal segments except for a fringe of pale gray at the tip of this last segment. Hind femur and tibia fuscous, hind tarsus ochraceous-white. Forewing on both sides as in *pallida*, with a darker gray ground color above, with series of black spots on upper side greatly reduced in number except along costa and outer margin and heavily irrorated with yellow scales, giving the wings a greenish appearance. Hind wing above and below as in *pallida*, usually slightly darker. Patch of specialized scales on hind wing along costal margin as in *pallida*.

Length of forewing, 10.5–13 mm.

Male genitalia (pl. 6, fig. 4) as given in the key.

Female.—Entirely like male except for the lack of the patch of specialized scales on hind wing near costal margin.

Length of forewing, 13 mm.

Female genitalia (pl. 7, fig. 9) with characters as given in the key.

Type locality.—Claremont, St. Ann Parish, Jamaica.

Additional type data.—Described from several examples ("Mehrere Exemplare"). According to Dr. E. M. Hering, of the Zoological Museum of the University of Berlin, there are two specimens, a male and a female, in the Möschler collection. The genitalia of the male

were dissected by Dr. Hering, and I hereby designate this dissected male as the lectotype. He compared the genitalia of this specimen with photographs of drawings sent to him and found that *mixta* is the species I have figured on plate 6, figure 4.

Location of type.—Lectotype in the Möschler collection, Zoological Museum of the University of Berlin.

Distribution.—JAMAICA: *St. Andrew Parish*, Newcastle (Sept.); *St. Ann Parish*, Claremont (Mar.), Moneague (Feb.); *Trelawny Parish*, Baron Hill (Oct.).

Twelve specimens examined.

Comparative remarks.—The greenish appearance of the forewing caused by numerous scattered yellow scales distinguishes this species from the other species in the genus. The characters of the male and female genitalia as given in the key and illustrated on plate 6, figure 4, and plate 7, figure 9, are diagnostic.

AMPLICINCIA WALKERI, new species

Cincia pallida Butler, HAMPSON (*nec* Butler), in part (♂ only), Catalogue of the Lepidoptera Phalaenae in the British Museum, vol. 2, p. 388, 1900.

Male.—Palpus fuscous, paler underneath and at apex. Antenna and frons fuscous, base of antenna pale gray. Vertex of head pale yellow with a light-brown spot in the middle. Foremargins of patagia and tegulae yellow. Mesoscutellum dark gray. Foreleg pale gray on femur and tibia. Tibia with black at middle and at tip. Tarsal segments black except for pale gray at apex and tip. Mid and hind legs with femur and outer side of tibia light gray. Inner side of tibia black. Tarsal segments of hind leg pale gray, of midleg gray with scattered black scales. Forewing as in *lathyi*, with transverse bands reduced and paler yellow and with the middle section of the transverse band in middle of wing below cell missing, leaving two yellow spots, one below middle of cell and the second below and beyond end of cell. Forewing below dark fuscous, paler immediately under the transverse yellow bands and spots of the upperside and along inner margin. Fringe along outer margin white. Hind wing above and below dark fuscous with patch of specialized scales along costal margin covered by forewing, pale yellow in color.

Length of forewing, 11 mm.

Male genitalia (pl. 6, fig. 3) with characters as given in the key.

Female.—Unknown.

Type locality and distribution.—Jamaica (further locality information unknown).

Additional type data.—Described from a single specimen, the holotype, male (Jamaica; J. B. Sturridge; ♂ genitalia preparation, British Museum No. 1947-268). This specimen was described by Hampson (loc. cit.) as the male of *pallida* Butler.

Location of type.—In British Museum of Natural History.

Comparative remarks.—This species is closest to *lathyi* and may be distinguished from that species by the male genitalia (pl. 6, fig. 3) and in the forewing by the loss of the middle section of the transverse yellow band below cell.

Genus CINCIA Walker

Cincia WALKER, List of specimens of lepidopterous insects in the collection of the British Museum, vol. 2, p. 538, 539, 1854.—MORRIS, Synopsis of the described Lepidoptera of North America, p. 310, 1862.—HAMPSON, Catalogue of the Lepidoptera Phalaenae in the British Museum, vol. 2, pp. 388-389, 1900.—MÖSCHLER, Abh. Senckenb. naturf. Ges., vol. 16, p. 118, 1890.—DRAUDT, in Seitz, Gross-schmetterlinge der Erde, vol. 6, p. 252, 1918.—STRAND, in Wagner, Lepidopterorum catalogus, pars 26, p. 733, 1922.—GUNDLACH, Anal. Soc. Española Hist. Nat., vol. 20, p. 161, 1891.—FORBES, Scientific survey of Porto Rico and the Virgin Islands, vol. 12, pt. 1, p. 33, 1930.

Type.—*Cincia conspersa* Walker (type by single included species). Labial palpus and antenna as in *Amplificincia*.

Venation as described for the group except that in the hind wing vein 5 is always present and stalked with 4.

Male genitalia (pl. 8, figs. 9, 11) with curved and hooklike uncus terminating in a constricted and somewhat elongate point; gnathos present and divided, forming two small slender and smooth arms; anellus present with ventral plate (juxta) and two large separate dorsal plates; vinculum triangular or rounded and longer than wide; harpe without a clavus and with transtilla from costa small and triangular; aedeagus undulate, tapered distally and ending in a single elongate spur; bulbus ejaculatorius dorsally from before middle of aedeagus; vesica with cornuti lacking and with numerous scobinations.

Female genitalia (pl. 8, figs. 10, 12) with the transverse ridgelike plate (anterior genital plate) on seventh sternum very weakly sclerotized and with deep lateral cupules before spiracles or transverse ridgelike plate very distinct and straight, with shallow cupules beyond either end; ostium bursae plate fused with anterior genital plate and bilobed with lobes free; eighth sternum with a single small buttonlike plate mesially between lobes of ostium bursae plate; bursa copulatrix armed internally with a small circle of claw or thornlike spines near opening of ductus bursae; bursa copulatrix subspherical, not much longer than broad and with a single denticulate platelike signum near or above middle.

Comparative remarks.—See this heading under *Amplificincia*.

Included in this genus are *Cincia conspersa* Walker and *Cincia sordida* (Möschler).

KEY TO THE SPECIES OF CINCIA

- | | |
|--|-------------------------|
| 1. Males | 2 |
| Females | 3 |
| 2. Harpe with a long upward directed clasper from inner surface near apex and with sacculus broadly expanded apically..... | <i>conspersa</i> Walker |

- Harpe without such clasper and with apex of sacculus extended into a short cuiller.....*sordida* (Möschler)
3. Ostium bursae plate with posterior lobes rounded and narrow, about as long as broad, or slightly longer; with transverse ridge below ostium bursae strongly sclerotized and elevated.....*sordida* (Möschler)
- Ostium bursae plate with free posterior lobes much broader than long, straight laterally and extended and produced toward middle; transverse ridge inconspicuous, only slightly sclerotized and elevated....*conspersa* Walker

CINCIA CONSPERSA Walker

Cincia conspersa WALKER, List of specimens of lepidopterous insects in the British Museum, vol. 2, pp. 538, 539, 1854.—MORRIS, Synopsis of the described Lepidoptera of North America, p. 310, 1862.—MÖSCHLER, Abh. Senckenb. naturf. Ges., vol. 16, p. 118, 1890.—GUNDLACH, Anal. Soc. Española Hist. Nat., vol. 20, p. 161, 1891.—KIRBY, A synonymic catalogue of Lepidoptera Heterocera, vol. 1, p. 366, 1892.—HAMPSON, Catalogue of the Lepidoptera Phalaenae in the British Museum, vol. 2, p. 389, 1900.—DRAUDT, in Seitz, Gross-schmetterlinge der Erde, vol. 6, p. 252, 1918.—STRAND, in Wagner, Lepidopterorum catalogus, pars 26, p. 733, 1922.—WOLCOTT, Journ. Dept. Agr. Puerto Rico, vol. 7, p. 158, 1923.—FORBES, Scientific survey of Porto Rico and the Virgin Islands, vol. 12, pt. 1, p. 33, 1930.

Male.—Palpus light ochraceous-white below and at apex, slightly darker above. Antenna, frons, vertex of head, and thorax ochraceous-white. A small black spot in middle of vertex of head, another near base of tegula on inner side, and a pair of black spots on posterior margin of mesoscutellum. Fore, middle, and hind legs marked with dark-brown or black spots as in *Amplicincia pallida*. Abdomen light ochraceous-gray below, slightly darker above. Forewing grayish white irrorated with black scales, without the yellow suffusion usually found in *A. pallida* and *A. mixta*. Arrangement of numerous black spots as in *A. pallida* with some of those in middle of wing reduced or missing. Hind wing above and below as in *A. pallida*, with a patch of specialized scales above cell on upper side dark brown, contrasting strongly with remainder of wing.

Length of forewing, 9 mm.

Male genitalia (pl. 8, fig. 10) with characters as given in the key.

Female.—Not different from the male except for the lack of the patch of specialized scales on upper side of hind wing.

Length of forewing, 10 mm.

Female genitalia (pl. 8, fig. 11) with characters as given in the key.

Type locality.—Jamaica.

Additional type data.—Described by Walker from two females: "a. Jamaica. From Mr. Gosse's Collection"; "b. Jamaica. Presented by E. Doubleday." I hereby designate as the lectotype the Gosse specimen, the one labeled type in the British Museum. The genitalia of this specimen are under Brit. Mus. preparation No. 1947-263.

Location of type.—In British Museum of Natural History.

Distribution.—JAMAICA: *St. Ann Parish*, Claremont (Mar.); *Manchester Parish*, Newport (Feb.); *Trelawny Parish*, Baron Hill.

Five specimens examined.

Remarks.—The genitalia of the type of *conspersa* were studied by D. S. Fletcher, of the Department of Entomology, British Museum of Natural History, and found to be the species illustrated in the present paper as figure 11 on plate 8.

CINCIA SORDIDA (Möschler)

Autoceras sordida MÖSCHLER, Abh. Senckenb. naturf. Ges., vol. 14, p. 32, 1886.

Aemene sordida (Möschler), KIRBY, A synonymic catalogue of Lepidoptera Heterocera, vol. 1, p. 368, 1892.

Cincia conspersa Walker, HAMPSON (*nec* Walker), in part (*Autoceras sordida* in synonymy of *Cincia conspersa*), Catalogue of the Lepidoptera Phalaenae in the British Museum, vol. 2, p. 389, 1900.

Male.—Not significantly different from *conspersa* in habitus. Palpus usually darker and usually no reduction in the number of black spots on upper side of forewing.

Length of forewing, 8–10 mm.

Male genitalia (pl. 8, fig. 12) with characters as given in the key.

Female.—Habitus like that of male, lacking the patch of specialized scales found on upper side of hind wing in that sex.

Length of forewing, 9–9.8 mm.

Female genitalia (pl. 8, fig. 13) with characters as given in the key.

Type locality.—Jamaica.

Additional type data.—Described from several examples ("Mehrere Exemplare"). According to Dr. E. M. Hering, of the Zoological Museum of the University of Berlin, there are two specimens, a male and a female, in the Möschler collection. The genitalia of the male were dissected by Dr. Hering, and I hereby designate this dissected male as the lectotype. He compared the genitalia of this specimen with photographs of drawings sent to him and found that *sordida* is the species I have figured on plate 8, figure 12.

Location of type.—Lectotype in the Möschler collection, Zoological Museum of the University of Berlin.

Distribution.—JAMAICA: *Portland Parish*, Norwich near Port Antonio; *St. Ann Parish*, Claremont; *Manchester Parish*, Mandeville; *Trelawny Parish*, Baron Hill, near Troy (May); *St. Elizabeth Parish*, Santa Cruz; parish unknown, May Hill.

Nineteen specimens examined.

Comparative remarks.—This species, although not closely related to *conspersa*, I believe belongs in the genus *Cincia* because of the great similarity between the two in the aedeagus, anellus, and gnathos. *C. sordida* is easily separated from *conspersa* by the structure of the harpes and of the anterior genital and ostium bursae plates.

PARACINCIA, new genus

Type.—*Paracincia butleri*, new species.

Males unknown.

Labial palpus and antenna of female as in *Amylicincia*.

Venation as described for the group except that in the hind wing vein 5 is always present and stalked with 4.

Female genitalia (pl. 9, figs. 14, 15) with simple anterior genital plate and with shallow cupules beyond either end, these cupules fused to anterior margin of ostium bursae plate; ostium bursae plate separate from anterior genital plate and notched mesially (not bilobed) on posterior margin; eighth sternum without posterior genital plate; bursa copulatrix armed internally with a large circlet of clawlike spines and this circlet of spines well below opening of ductus bursae; bursa copulatrix subspherical, not much longer than broad and with a single denticulate platelike signum near or slightly below middle.

Comparative remarks.—This genus is related to *Cincia* and *Amplincincia* and differs chiefly in having the internal circlet of spines of the bursa copulatrix large and placed well below the opening of ductus bursae. It differs also in having the ostium bursae plate separate from the anterior genital plate and not fused as in *Cincia* and *Amplincincia*.

Included in this genus are *Paracincia butleri*, new species, and *Paracincia dognini*, new species.

KEY TO THE SPECIES OF PARACINCIA

1. Female with anterior genital plate folded inward from surface of seventh sternum below ostium bursae and forming a lobe.....*butleri*, new species
- Female with anterior genital plate not folded inward, placed on surface of seventh sternum.....*dognini*, new species

PARACINCIA BUTLERI, new species

Male.—Unknown.

Female.—Palpus and frons dark brown with many scattered yellow scales. Antenna, except base, brown above. Vertex of head and base of antenna yellow with scattered brown scales. Mesoscutum, patagia, and tegulae brown suffused with yellow, dark brown, and gray. Legs light brown and with dark brown or black bands on tarsus and in middle and on tip of tibia. Forewing above fuscous, suffused with yellow and with numerous dark-brown, nearly black, spots. These spots arranged as in *Amplincincia pallida* but more indistinct. Hind wing above and below and forewing below entirely fuscous.

Length of forewing, 11 mm.

Female genitalia (pl. 9, fig. 14) with characters as given in the key.

Type locality and distribution.—Newcastle, St. Andrew Parish, Jamaica.

Additional type data.—Described from a single specimen, the holotype, female (Newcastle, St. Andrew Parish, Jamaica; British Museum genitalia preparation No. 1949-87).

Location of type.—In British Museum of Natural History.

Comparative remarks.—This species is easily distinguished from *P. dognini*, its closest relative, by having yellow scales on head, thorax, and wings.

PARACINCIA DOGNINI, new species

Male.—Unknown.

Female.—Similar to *P. butleri*. Palpus and frons and vertex of head fuscous. Patagia and tegulae paler. Forewing above fuscous, with dark-brown spots pale and indistinct. Hind wing above and below and forewing below fuscous.

Length of forewing, 9.5 mm.

Female genitalia (pl. 9, fig. 15) as characterized in the key.

Type locality and distribution.—Newport, Manchester Parish, Jamaica.

Additional type data.—Described from a single specimen, the holotype, female (locality as given above; U.S.N.M. No. 34816; February 19, 1937; E. A. Chapin; ♀ genitalia preparation W.D.F. No. 2895).

Location of type.—In United States National Museum.

Comparative remarks.—This species is closely related to *P. butleri*. It is easily distinguished from *butleri* in the habitus by the lack of yellow scales on the head, thorax, and wings.

PARVICINCIA, new genus

Type.—*Parvicincia belli*, new species.

Labial palpus upturned, not appressed; short, not reaching middle of frons (in ventral view).

Antenna of male and female filiform and gradually more slender to the tip; each subsegment with two pair of bristles, one from near or above middle of ventrolateral margin of subsegment, the second much smaller and just behind the first; subsegments pubescent.

Venation as described for the group except in the forewing, veins 4 and 5 are never separate, and in the hind wing vein 3 is always stalked with 4 from lower angle of cell and 5 is absent.

Male genitalia (pl. 9, fig. 16) with curved and hooklike uncus terminating in a constricted and elongate point; gnathos usually absent, if present greatly reduced, being represented by a spur or spine. This spine sometimes found on one side only. Ventral plate (juxta) of anellus absent; dorsal plate of anellus large, lightly sclerotized and connected to transtilla of harpe; vinculum triangular, about as wide as long; aedeagus nearly straight, tapered and pointed with bulbus ejaculatorius dorsally from near anterior end; vesica with numerous scobinations; harpe with cuiller and subapical arm and lobe.

Female genitalia with ductus bursa long and slightly curved laterally; entrance to bursa copulatrix without armature; bursa copulatrix slightly longer than broad and with two dentate signa, one a circular plate and above middle and the second a lunular-shaped plate and just

below entrance of ductus bursae; seventh sternum with short upraised ridge in middle below ostium bursae and with a single long shallow pouch along anterior margin.

Comparative remarks.—This genus is not so closely related to *Cincia*, *Amplicincia*, and *Paracincia* as those genera are to one another. *Parvicincia* differs greatly from these genera in the filiform antenna of the male, in the lack of the juxta of anellus, and in the nearly straight aedeagus with bulbus ejaculatorius from near the anterior end. In the females, *Parvicincia* differs from the other genera in the lack of internal circlet of spines in the bursa copulatrix and in the presence of two signa, one lunular in shape. Also, the females have no cupules, having instead a single long shallow pouch along the anterior margin.

A single new species, *Parvicincia belli*, is included here.

PARVICINCIA BELLI, new species

Male.—Palpus dark brown, sometimes nearly black. Antenna and head ochraceous-white, sometimes darker and often with a few dark scales in middle of vertex. Thorax ochraceous-white or darker, with a pair of small black spots on posterior margin of mesoscutellum. Foreleg with apex of tibia, apex of first tarsal segment, and all of second through fifth tarsal segments dark brown, nearly black. Dark-brown spots in middle of midtibia and at apex of first midtarsal segment. Hind legs and remainder of fore and mid legs unicolorous ochraceous-white. Abdomen ochraceous-white below, slightly darker above. Forewing above grayish white, sometimes more fuscous, irrorated with black scales and with numerous small dark brown or black spots as follows: A small basal spot in middle of wing; an oblique subbasal series of three spots; an antemedial series of four spots bent inward to costa and outward above inner margin; medial spots on costa, and between cell and base of vein 2; a spot at upper angle and one at lower angle of cell and one on costa above these and below middle of vein 2; several subapical spots at costa and below veins 6 and 5; five or six marginal spots between veins at outer margin. Fringe concolorous with ground color of wing. Forewing fuscous below, paler dirty white along lower margin and through middle of costa, which has a series of two or three black spots. Hind wings above and below fuscous with slightly paler fringes and slightly paler base underneath. An indefinite oblong patch of modified scales above cell of hind wing and usually covered by fore wing. These scales concolorous with rest of wing or sometimes ochraceous, slightly thicker, longer and narrower than the normal scales.

Length of forewing, 7.5–8.5 mm.

Male genitalia as figured (pl. 9, fig. 16).

Female.—Habitus like that of male without the patch of specialized scales on upper side of hind wing.

Length of forewing, 8–9.5 mm.

Female genitalia as figured (pl. 9, fig. 17).

Type locality.—Baron Hill, near Jackson Town, Trelawny Parish, Jamaica.

Additional type data.—Described from the holotype, male (locality as given above; U.S.N.M. No. 34817; March 17, 1931; Mr. and Mrs. E. L. Bell; ♂ genitalia preparation, W.D.F. No. 1335, 1941); allotype, female (Claremont, St. Ann Parish, Jamaica; March 11, 1931; Mr. and Mrs. E. L. Bell; ♀ genitalia preparation, W.D.F. No. 1336, 1941); paratypes Nos. 1 through 10, males (Moncague, St. Ann Parish, Jamaica; various dates in July 1933 and 1936; Avinoff and Shoumatoff; ♂ genitalia preparations W.D.F. No. 3059 for paratype No. 1, No. 3058 for paratype No. 2, No. 3055 for paratype No. 3); paratype No. 11, male (same locality as for paratypes Nos. 1–10; July 24, 1895; Lady Blake; leg slide W.D.F. No. 2465); paratypes Nos. 12 through 18, females (Constant Spring, St. Catherine Parish, Jamaica; various dates in June, July, and August; Avinoff and Shoumatoff; ♀ genitalia preparations W.D.F. No. 3065 for paratype No. 12, No. 3064 for paratype No. 13, No. 3066 for paratype No. 14); paratype No. 19, female (Christiana, Manchester Parish, Jamaica; August 14, 1940; Avinoff Collection); paratype No. 20 (Christiana, Manchester Parish, Jamaica; August 11; Avinoff Collection; ♀ genitalia preparation W.D.F. No. 3067, 1949); paratype No. 21, female (Montego Bay, St. James Parish, Jamaica; July 1, 1936; Avinoff and Shoumatoff; ♀ genitalia preparation W.D.F. No. 3063, 1949); paratype No. 22, female (May Hill, Jamaica; July 1884; F. Klages); paratypes Nos. 23 through 25, males (Mandeville, Manchester Parish, Jamaica; November and March-April; ♂ genitalia preparations W.D.F. No. 2426 for paratype No. 23, No. 2433 for paratype No. 24, No. 2466 for paratype No. 25).

Location of types.—Holotype, allotype, and paratypes Nos. 2, 3, 10, 11, 12, 13, 14, and 20 in the United States National Museum. Paratypes Nos. 1, 4, 5, 7, 8, 9, 11, 15, 17, 19, 21, and 22 in the Carnegie Museum. Paratypes Nos. 6 and 18 in the British Museum of Natural History. Paratypes Nos. 23, 24, and 25 in the American Museum of Natural History.

Distribution.—JAMAICA: *St. Thomas Parish*, Bath (Mar.); *St. Mary Parish*, May Hill (July); *St. Catherine Parish*, Constant Spring (Aug., July, June); *St. Ann Parish*, Claremont (Mar.), Moncague (July); *Manchester Parish*, Mandeville (Apr., Nov.), Christiana (Aug.), Highgate (July); *Trelawny Parish*, Baron Hill near Jackson Town, 1,150 feet (Mar.), Troy (May); *St. James Parish*, Montego Bay (July).

Forty-four specimens examined.

SPECIES REMOVED FROM *CINCIA*, NOT INCLUDED IN *AMPLI-CINCIA*, *PARACINCIA*, OR *PARVICINCIA* AND TRANSFERRED TO OTHER GENERA

PARAMULONA NEPHELISTIS (Hampson), new combination

Cincia nephelistis HAMPSON, Ann. Mag. Nat. Hist., sec. 7, vol. 15, pp. 436, 437, 1905.—HAMPSON, Catalogue of the Lepidoptera Phalaenae in the British Museum, Supplement, vol. 1, pp. 700, 701, 1914.—DRAUDT, in Seitz, Grossschmetterlinge der Erde, vol. 6, p. 252, 1918.—STRAND, in Wagner, Lepidopterorum catalogus, pars 26, p. 733, 1922.

The genitalia of the type (male) of *nephelistis* (studied for me by D. S. Fletcher, Department of Entomology, British Museum of Natural History) show this species to belong to the genus *Paramulona* Hampson.

HYPOPREPPIA MUELLERI Dyar

Hypoprepia muelleri DYAR, Journ. New York Ent. Soc., vol. 15, p. 51, 1907.
Cincia muelleri (Dyar), HAMPSON, Catalogue of the Lepidoptera Phalaenae in the British Museum, Supplement, vol. 1, p. 701, fig. 224, 1914.—DRAUDT, in Seitz, Grossschmetterlinge der Erde, vol. 6, p. 252, fig. 34d, 1918.—STRAND, in Wagner, Lepidopterorum catalogus, pars 26, p. 733, 1922.

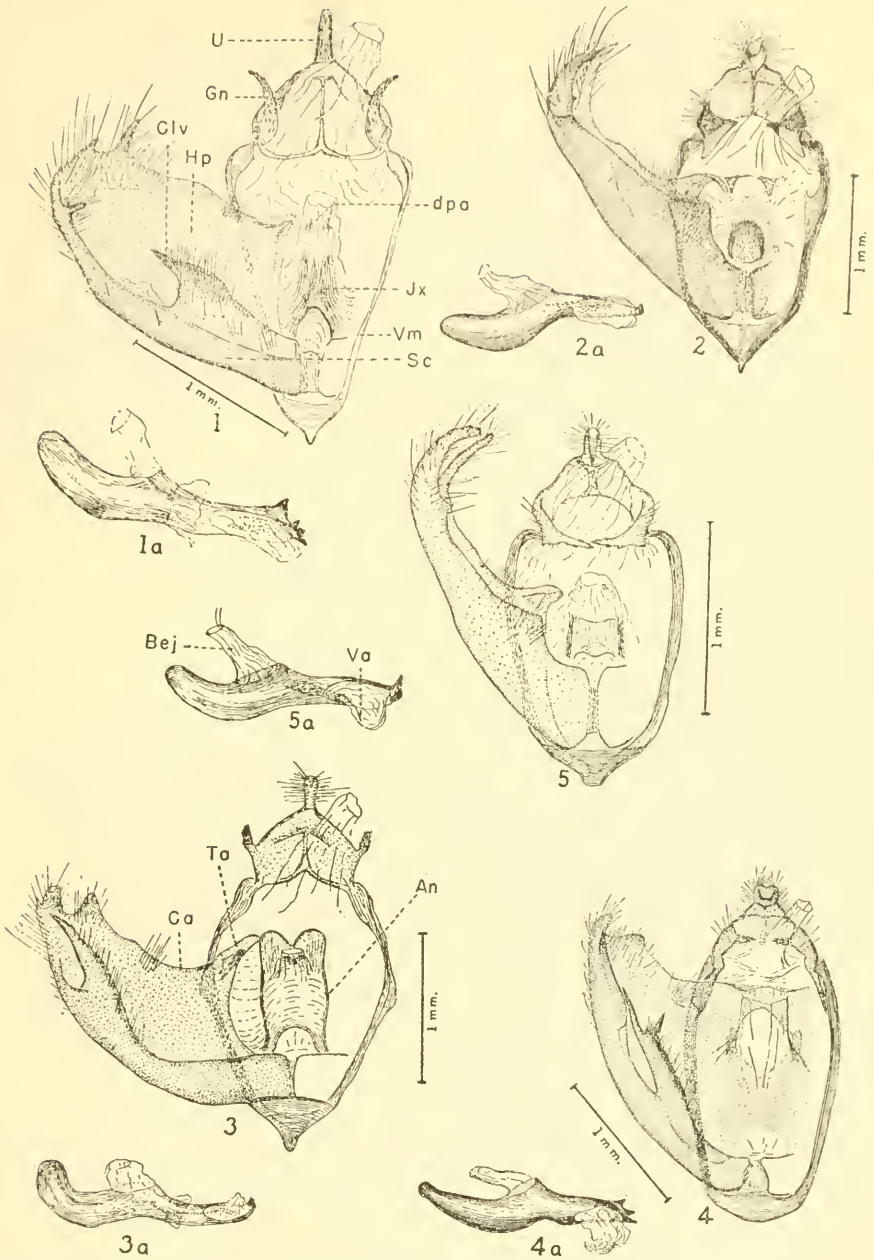
The genitalia of the type of *muelleri* described from Mexico City show this species to belong to *Hypoprepia* Hübner, where it was originally placed by Dyar and not to *Cincia* as designated by Hampson. Its nearest relative is *Hypoprepia inculta* Henry Edwards.

NOTE ON THE ILLUSTRATIONS

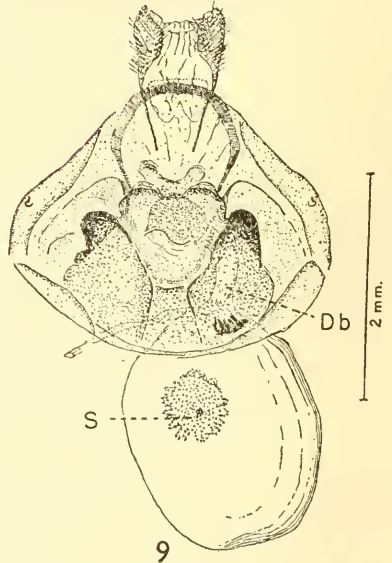
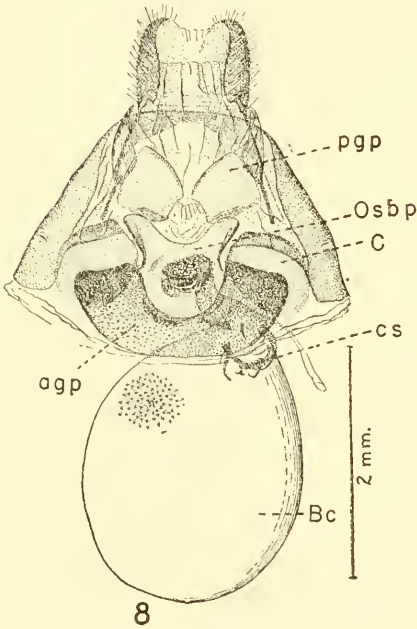
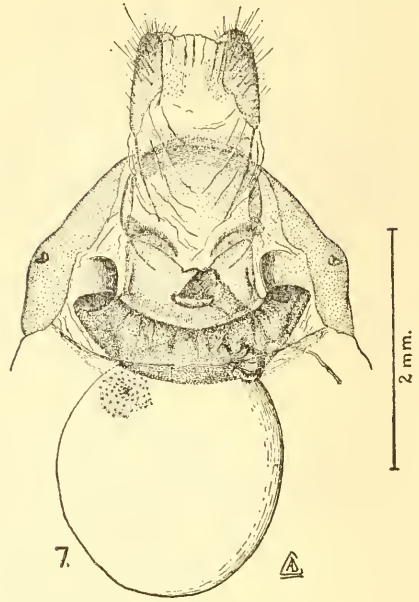
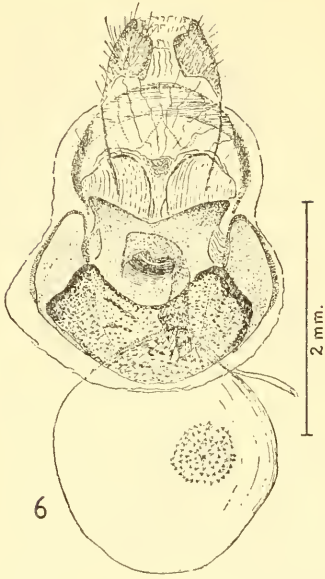
Arthur D. Cushman, of the U. S. Bureau of Entomology and Plant Quarantine, made the drawings for the following figures: 2, 4, 7, 8, 10, 11, 12, 13, 16, and 17. The remaining drawings were done by the author. The aedeagi have been removed from the male genitalia and drawn in lateral view. The remainder of the male genitalia and all female genitalia are drawn from the ventral view. Since they are symmetrical the right harpes have been omitted.

EXPLANATION OF SYMBOLS

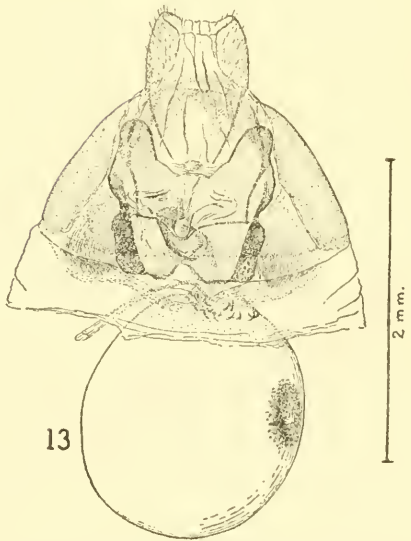
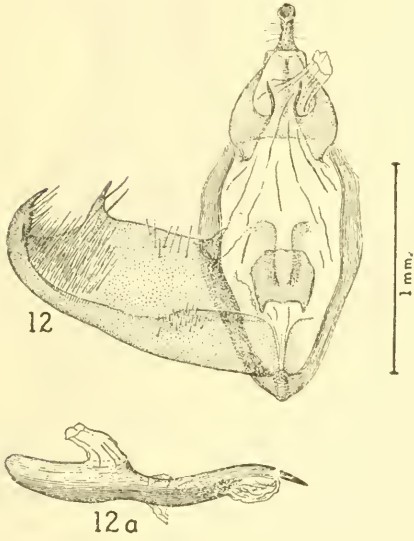
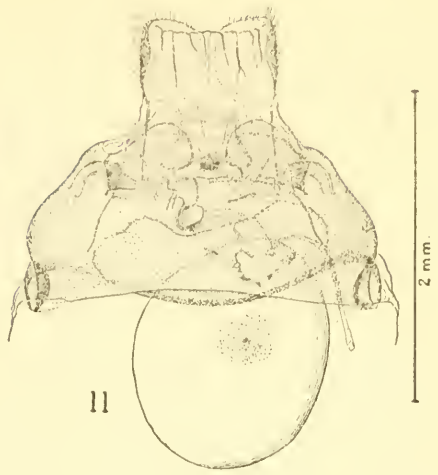
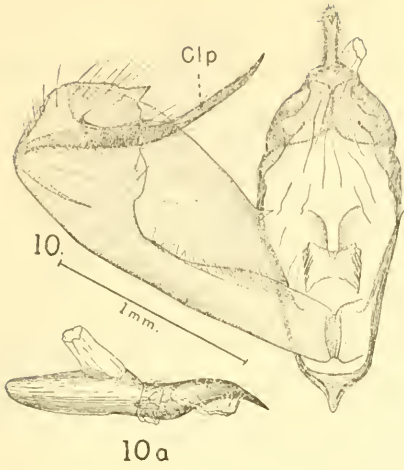
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|--|---|--|---------------------------------------|
| | <i>Male</i> | | <i>U</i> , Uncus. |
| | <i>An</i> , Anellus. | | <i>Va</i> , Vesica. |
| | <i>Bej</i> , Bulbus ejaculatorius. | | <i>Vm</i> , Vinculum. |
| | <i>Ca</i> , Costa. | | <i>Female</i> |
| | <i>Clp</i> , Clasper. | | <i>agp</i> , Anterior genital plate. |
| | <i>Clv</i> , Clavus. | | <i>Bc</i> , Bursa copulatrix. |
| | <i>dpa</i> , Dorsal plates of anellus. | | <i>C</i> , Cupules |
| | <i>Gn</i> , Gnathos. | | <i>cs</i> , Circle of spines. |
| | <i>Hp</i> , Harpe. | | <i>Db</i> , Ductus bursae. |
| | <i>Jx</i> , Juxta (ventral $\frac{8}{1}$ plate of anellus). | | <i>Osbp</i> , Ostium bursae plate. |
| | <i>Sc</i> , Sacculus. | | <i>pgp</i> , Posterior genital plate. |
| | <i>Ta</i> , Transtilla. | | <i>S</i> , Signum. |



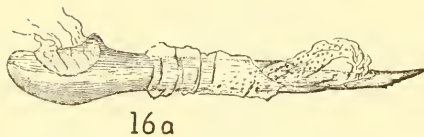
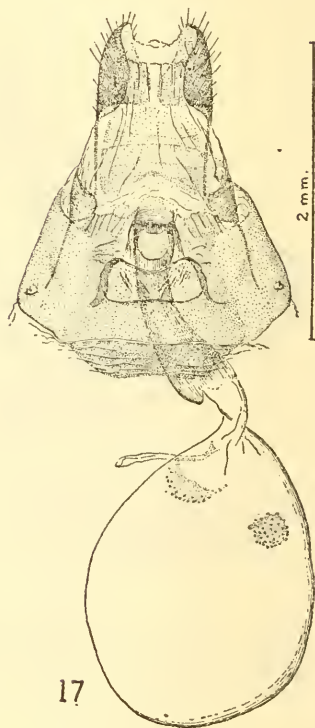
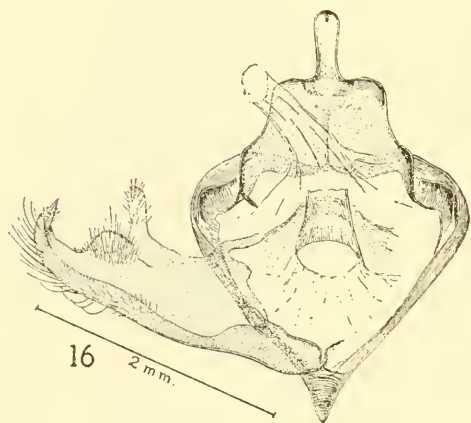
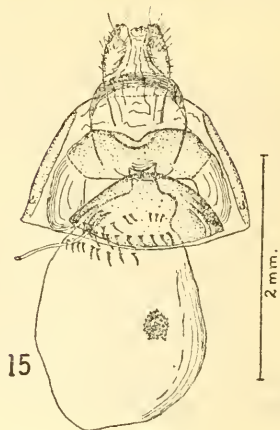
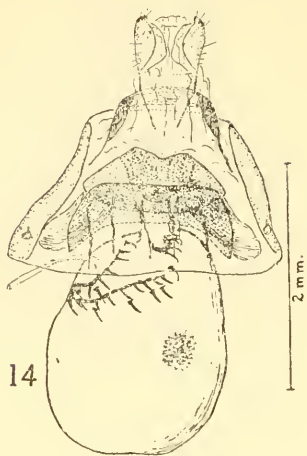
1, 1a, *Amplicincia lathyi*, new genus and species: 1, Male genitalia; 1a, aedeagus.
 2, 2a, *Amplicincia pallida* (Butler): 2, Male genitalia; 2a, aedeagus.
 3, 3a, *Amplicincia walkeri*, new species: 3, Male genitalia; 3a, aedeagus.
 4, 4a, *Amplicincia mixta* (Möschler): 4, Male genitalia; 4a, aedeagus.
 5, 5a, *Amplicincia fletcheri*, new species: 5, Male genitalia; 5a, aedeagus.



Female genitalia of: 6, *Amplicincia lathyi*, new genus and species; 7, *A. pallida*[♀](Butler); 8, *A. fletcheri*, new species; 9, *A. mixta* (Möschler).



10-11, *Cincia conspersa* Walker: 10, Male genitalia; 10a, aedeagus; 11, female genitalia.
12-13, *Cincia sordida* (Möschler): 12, Male genitalia; 12a, aedeagus; 13, female genitalia.



14, *Paracincia bulleri*, new genus and species: Female genitalia.
 15, *Paracincia dognini*, new species: Female genitalia.
 16-17, *Parovicincia belli*, new genus and species: 16, Male genitalia; 16a, aedeagus; 17, female genitalia.