

The Male Genitalia of the New Zealand Crambidae.

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[Read before the Auckland Institute, 30th July, 1929; received by Editor, 1st October, 1929; issued separately, 30th November, 1929.]

THE Crambidae are numerically well represented in New Zealand, but this is chiefly owing to the large number of species of *Crambus*, New Zealand being the headquarters of the type genus. Of this genus 47 species are listed out of a total of 86 for the family. In Australia, though the specific strength of the family is about half as many again as in New Zealand, the type genus includes only a few forms. *Diptychophora* is the second largest genus in New Zealand, having a total of 17 known species. *Orocrambus*, a mountain relative of *Crambus*, has a dozen members, there being also, according to Dr. Jefferis Turner, a single representative in Australia. Of the other genera which make up New Zealand's total, *Protyparcha*, *Scenoplaca* and *Gadira* are monotypic and endemic, while *Talis* and *Argyria* are wide-spread genera which are represented by one or two species only.

The chief characteristics of the male genitalia of the family are the well developed but simple uncus and gnathos, the more or less tubular aedeagus, the tendency of the lateral arms of the vinculum to become triangularly dilated and the prominence (usually) of the costa of the harpes. The genitalia are normally more or less withdrawn within the eighth segment, the latter being seldom modified to any extent.

Gadira Walker (Fig. 1).

Monotypic and endemic, the species being *G. acerella* Walk., a fairly common insect in both islands.

Tegumen rather narrow, firmly attached to, but not fused with vinculum, the shoulders clothed with long hairs which extend above the uncus; uncus long, thin, curved, acutely pointed. Gnathos with long tongue, apex directed caudally. Aedeagus rather short, stout, sinuate, a small tubercle on left side at about $\frac{3}{4}$. Juxta a shield-shaped plate which apically embraces aedeagus and has on the left side a short curved horn-like process, while on the right is a similar but much longer and less curved one. Harpes simple, long, moderately broad, narrowed apically, clothed within with scattered weak hairs. Vinculum narrow; saccus not developed.

Diptychophora Zeller (Figs. 2 to 17).

A fairly large genus with a preponderance of species in New Zealand, but with representatives in South Africa, South America, Australia and the Indo-Malayan region.

Tegumen usually rather short, narrow to moderately broad, fused narrowly with vinculum or firmly attached thereto, frequently with a brush of long thin hairs rising from junction; uncus varying from short to very long, narrow, more or less curved. Gnathos well developed, lateral arms fusing to form a long narrow tongue which is usually a little shorter than the uncus and upturned slightly at apex.

Aedeagus moderately long, slender to stout, frequently armed with a series of minute cornuti but occasionally with a single large one. Juxta a simple convex plate, usually oblong or triangular. Harpes more or less triangular, bifid apically or with a prong or protuberance on costal margin; clothed within with scattered rather weak hairs. Vinculum with broad subtriangular lateral arms and rounded scoop-like base; saccus absent or not differentiated.

KEY TO THE SPECIES OF *DIPTYCHOPHORA*.

- | | | |
|--|----|-----------------------------|
| 1. Harpes with slight pointed protuberance on costal margin | 2 | |
| Harpes with prong on costal margin | 4 | |
| 2. Harpes with apex pointed | | <i>parorma</i> Meyr. |
| Harpes with apex rounded | 3 | |
| 3. Aedeagus with apex much narrowed and bent vertically; vinculum with lateral arms narrower than base | | <i>pyrsophanes</i> Meyr. |
| Aedeagus with apex not much narrowed; vinculum with lateral arms broader than base | | <i>holanthes</i> Meyr. |
| 4. Harpes with two prongs on costal margin | | <i>auriscriptella</i> Walk. |
| Harpes with not more than one prong on costal margin | 5 | |
| 5. Harpes with apex bifid | 6 | |
| Harpes with apex not bifid | 7 | |
| 6. Harpes with costal prong not extending beyond apex | | <i>chrysochyta</i> Meyr. |
| Harpes with costal prong extending beyond apex | | <i>elaina</i> Meyr. |
| 7. Harpes with small pointed protuberance on costal margin | 8 | |
| Harpes without pointed protuberance on costal margin | 10 | |
| 8. Harpes with protuberance at base of prong; prong sinuate | | <i>helioclypa</i> Meyr. |
| Harpes with prong straight or slightly curved | 9 | |
| 9. Harpes with costal prong straight; protuberance at base of prong | | <i>lepidella</i> Walk. |
| Harpes with costal prong slightly curved; protuberance much below base of prong | | <i>bipunctella</i> Walk. |
| 10. Harpes with costal prong lying close to margin | 11 | |
| Harpes with costal prong not close to margin | 13 | |
| 11. Harpes with apex markedly and abruptly narrowed | 12 | |
| Harpes with apex not abruptly narrowed | | <i>metallifera</i> Butl. |
| 12. Aedeagus moderately stout; juxta battledor-shaped | | <i>leucoxantha</i> Meyr. |
| Aedeagus very slender; juxta suboval with apex produced | | <i>interrupta</i> Feld. |
| 13. Uncus and gnathos very long | | <i>selenaea</i> Meyr. |
| Uncus and gnathos short or moderately long | 14 | |
| 14. Harpes with apex very narrow | | <i>microdora</i> Meyr. |
| Harpes with apex moderately broad | 15 | |
| 15. Harpes with costal margin markedly dilated below base of prong; aedeagus slender with a small cornutus near apex | | <i>epiphaea</i> Meyr. |
| Harpes with costal margin not dilated below base of prong; aedeagus moderately stout with a long curved cornutus near apex | | <i>harmonica</i> Meyr. |

Talis Guenee. (Fig. 18).

This genus, well represented in Australia, has one species in New Zealand, the endemic and rather local *I. leucophthalma* Meyr.

Tegumen long, not fused with, but rather closely attached to, vinculum, apical portion covered with long hair; uncus narrow, curved, pointed. Gnathos band-like with long pointed tongue curved caudally. Aedeagus moderately long, clavate, weakly chitinised apically, with a pair of minute lateral flaps near base. Juxta a rounded fan-shaped plate with two pairs of well chitinised curved lateral prongs springing from apex, the upper pair twice the length of the lower (between these prongs lies the aedeagus). Harpes long, rather narrow, costal margin with a narrow pointed process before middle, inner surface clothed with weak scattered hairs. Vinculum very narrow at base, arms slightly expanded; saccus not developed.

Scenoplaca Meyrick. (Fig. 19).

Endemic and monotypic. The species, *S. petraula* Meyr., has, so far, been found only in a restricted area (Lyttelton Hills) in Canterbury.

Tegumen moderately broad, not fused with, but closely attached to, vinculum; uncus moderately long, curved, pointed. Gnathos with well developed, evenly curved, pointed tongue. Aedeagus very short, long-pointed. Juxta a rounded plate ending apically in a pair of strong sinuate lateral prongs. Harpes simple, long, rather narrow, apically slightly narrowed, weakly haired within. Vinculum, with lateral arms triangularly dilated, base wider; saccus little developed.

Tauroscopa Meyrick. (Figs. 20 to 22).

A small endemic genus, the members of which are found on mountains at elevations of from about 4,000 ft. upwards.

Tegumen moderately broad, the lateral arms long and tapering to a point, not fused with vinculum; uncus rather short, curved. Gnathos with short curved tongue. Aedeagus short, swollen at entrance of ductus ejaculatorius, apex more or less truncate. Juxta a convex plate passing into a pair of large pointed lobes lying on either side of the aedeagus. Harpes simple, hardly narrowed apically, clothed within with weak hairs. Transtilla a more or less quadrangular plate projecting from the upper basal angles of the harpes and connected by a membranous band. Vinculum small, arms narrow and saccus hardly developed. Between the lower basal angles of the harpes there is a minute chitinous plate; it is possible that this is the true juxta, the part described as that structure being the greatly modified anellus.

KEY TO THE SPECIES OF *TAUROSCOPA*.*

- | | |
|--|-------------------------|
| 1. Juxta with a single pair of apical prongs | 2 |
| Juxta with two pairs of apical prongs | <i>trapezitis</i> Meyr. |
| 2. Apical lobes of juxta abruptly narrowed; band connecting transtillae narrow | <i>notabilis</i> Philp. |
| Apical lobes of juxta gradually narrowed; band connecting transtillae broad | <i>gorgopis</i> Meyr. |

*During the examination of the members of this genus, it was found that *T. glaucophanes* Meyr. exhibited entirely different genitalic characters from any of the other species. This fact, together with the difference in venation, has been deemed sufficient for the erection of a new genus for the reception of *glaucophanes* and this will be undertaken in the writer's next paper on new species.

Argyria Hübener. (Figs. 23 and 24).

Two New Zealand species of this large and widely spread genus have been described, but the genitalic characters of the two forms differ in so marked a degree that their generic identity seems extremely doubtful. The diagnoses of the species will therefore be dealt with separately.

Argyria pentadactyla Z. (Fig. 23).

Tegumen moderately broad and long, not fused with vinculum; uncus rectangularly bent at about $\frac{1}{3}$. Gnathos with thin sinuate tongue upturned apically. Aedeagus short, simple, tube-like. Juxta a small weakly-chitinised simple convex plate embracing aedeagus, Harpes long, narrow, costa with long thin free apical portion diverging from main structure; a rather long medium process projecting obliquely over costa, its apex thin and bent sharply backwards. Vinculum rather broad basally, merging into pointed saccus.

A. strophaea Meyr. (Fig. 24).

Tegumen broad, narrowly fused with vinculum; uncus broad at base, narrow on apical $\frac{1}{2}$, slightly curved. Gnathos with arms extending caudally and ending in a pair of short pointed processes, arms not fused but united by a membranous plate. Aedeagus strongly bent, apex divided into a pair of lateral plates with dentate extremities. Juxta a reversed s-shaped convex plate embracing aedeagus. Harpes long, broad, parallel-sided, apex broadly rounded, a series of 9 or 10 stout spines along costal margin towards base, clothed within with weak hairs. Vinculum small; saccus rounded and indented apically.

Protyparcha Meyrick. (Fig. 25).

Endemic and monotypic, the species, *P. scaphodes* Meyr. is known only from Auckland Island.

Tegumen moderately broad, not fused with vinculum; uncus long, narrow, upper half bent slightly downwards. Gnathos with long-straight blunt-pointed tongue extending beneath uncus, slightly upturned apically. Aedeagus rather short, simple, curved, truncate at apex, narrowed on basal $\frac{1}{2}$. Juxta a rather long narrow plate, widest at base. Harpes broad, simple, apically somewhat narrowed but broadly rounded. Vinculum very small, arms a little dilated apically; saccus undeveloped.

Crambus Fabricius. (Figs. 26 to 60).

A large and world-wide genus exceptionally well represented in New Zealand, where 47 species, all endemic, have been described.

Tegumen moderate to broad, not fused with vinculum, lateral arms more or less truncate apically; uncus narrow to moderately broad, moderate or long, straight or slightly curved. Gnathos a ring-like band with a median tongue—which may be shorter or longer than the uncus—usually narrow, straight and bent slightly up or down apically. Aedeagus usually more or less tubular, short or moderate, the lower portion above entrance of the ductus ejaculatorius mem--

branous and the well chitinised upper portion bearing a short projection or "thorn" towards apex; there may be a series of minute cornuti or a group of larger ones. Juxta absent normally, but in at least one species, *C. cyclopicus* Meyr. there is a small triangular keeled chitinous piece lying between the lower basal angles of the harpes and above this a small V-shaped piece, the arms lying along the base of each harpe; perhaps the latter may function as the juxta the aedeagus being in this species unusually long. Harpes broad, the lower margin usually well rounded and the apex somewhat narrowed; in a few species the costa is separated apically as a long lobe, but in most instances this part is dilated basally (forming the *pars basalis* of Petersen) and terminates in a curved flange extending inwardly towards a similar but smaller flange near the lower margin; occasionally there is a pointed projection on the lower margin at about $\frac{2}{3}$; the armature within consists of a rather thin coating of weak hairs. Vinculum broad, arms usually subtriangular and with a narrow process extending behind the arms of the tegumen; saccus usually long and thin, but occasionally broad and hardly differentiated from the vinculum.

KEY TO THE SPECIES OF *CRAMBUS*.

- | | |
|---|--------------------------|
| 1. Costa of harpe ending in a separate lobe | 2 |
| Costa of harpe not ending in a separate lobe .. | 4 |
| 2. Apex of costa acute; costa free for about half its length | <i>apicellus</i> Z. |
| Apex of costa not acute; costa free for not more than $\frac{1}{3}$ of its length | 3 |
| 3. Costa free for about $\frac{1}{3}$ of its length, apex narrow, rounded | <i>ornatus</i> Philp. |
| Costa free for about $\frac{1}{3}$ of its length, apex broad, subtruncate .. | <i>tuhualis</i> Feld. |
| 4. Lower margin of harpe with sharp process .. | 5 |
| Lower margin of harpe without such process .. | 6 |
| 5. Gnathos parallel-sided; aedeagus with 3 large and 2 or 3 small cornuti | <i>apselias</i> Meyr. |
| Gnathos tapering to apex; aedeagus with 5 or 6 moderate cornuti .. | <i>ramosellus</i> Dbl. |
| 6. Costa of harpe more or less triangularly projecting at apex | 7 |
| Costa of harpe rounded at apex | 9 |
| 7. Vinculum very broad, saccus hardly differentiated | <i>heteraulus</i> Meyr. |
| Vinculum moderately broad; saccus well differentiated, narrow | 8 |
| 8. Apex of harpe narrow; apex of costa not incurved; aedeagus with 4 or 5 moderately large cornuti .. | <i>enchophorus</i> Meyr. |
| Apex of harpe moderately broad; apex of costa incurved; aedeagus with linear series of 9 or 10 closely set cornuti .. | <i>vulgaris</i> Butl. |
| 9. Saccus more or less excavate | 10 |
| Saccus not excavate | 12 |
| 10. Saccus deeply excavate; apex of harpe hardly narrowed .. | <i>heliotes</i> Meyr. |
| Saccus moderately excavate; apex of harpe much narrowed | 11 |

11. Gnathos very broad basally, tapering to acute point on apical $\frac{1}{2}$; aedeagus without thorn	<i>dicrenellus</i> Meyr.
Gnathos rather narrow, slightly constricted above middle, apex not sharp; aedeagus with thorn	<i>corruptus</i> Butl.
12. Saccus not developed or broad and rounded	13
Saccus pointed or finger-like	18
13. Saccus not developed	14
Saccus broad and rounded	15
14. Apex of harpe broadly rounded; costa rather short, flange deeply but narrowly emarginate at middle	<i>angustipennis</i> Z.
Apex of harpe narrow; costa well developed, flange widely but not deeply emarginate at middle	<i>ephorus</i> Meyr.
15. Costa very broad; gnathos extending well beyond uncus	<i>xanthogrammus</i> Meyr.
Costa not very broad; gnathos hardly extending beyond uncus	16
16. Saccus truncate apically, very broad; harpe with apex narrow	<i>melitastes</i> Meyr.
Saccus rounded apically, not very broad; harpe with apex moderately broad	17
17. Harpe with lower margin almost rectangularly bent at about $\frac{2}{3}$; flange of costa simple	<i>flexuosellus</i> Dbl.
Harpe with lower margin rounded; flange of costa deeply emarginate at middle	<i>oppositus</i> Philp.
18. Tongue of gnathos very short	19
Tongue of gnathos moderate or long	22
19. Saccus tapered to apex	20
Saccus parallel-sided; flange of costa pointed in profile	<i>saristes</i> Meyr.
20. Gnathos constricted at middle; flange of costa not prominent in profile	<i>meritus</i> Meyr.*
Gnathos not constricted at middle; flange of costa prominent in profile	21
21. Flange of costa narrow, finger-like in profile; tongue of gnathos forming narrow process	<i>antimorus</i> Meyr.
Flange of costa broad, round-pointed in profile; tongue of gnathos broad, evenly tapered	<i>heteranthes</i> Meyr.
22. Saccus long, narrow, tapering or finger-like	23
Saccus short, broad-based, apex rounded or truncate	27
23. Aedeagus with 6 or 7 moderately large thorn-like cornuti; uncus very narrow; tongue of gnathos apically blunt	<i>siriellus</i> Meyr.
Aedeagus with linear series of minute cornuti or dense patch	24
24. Aedeagus with linear series of minute cornuti	25
Aedeagus with dense patch of linear cornuti	26
25. Harpes with lower margin sharply bent at about middle, costa not prominent; saccus parallel-sided to near apex	<i>vitellus</i> Dbl.
Harpes with lower margin evenly rounded, costa prominent; saccus evenly tapered	<i>obstructus</i> Meyr.
26. Saccus very narrow, tapering round-pointed; flange of costa rather narrow but deep	<i>schedias</i> Meyr.
Saccus narrow, finger-like; flange of costa normal	<i>callirrhous</i> Meyr.

*I am not at present able to separate *meritus* and *antistes* Meyr., but as the specimen dissected was from the locality of the type material of *meritus*, I treat it as that species.

27. Saccus with truncate apex	28	
Saccus with acute or rounded apex	30	
28. Arms of vinculum hardly dilated; saccus short, oblong, without keel		<i>simplex</i> Butl.
Arms of vinculum dilated; saccus tapering, narrow, with keel or moderately broad, without keel	29	
29. Saccus moderately broad; strongly tapered, without keel; aedeagus without cornuti		<i>harpophorus</i> Meyr.
Saccus narrow, tapered, with keel; aedeagus with a large dense patch of minute cornuti		<i>isochytus</i> Meyr.
30. Saccus with apex acute		<i>scutatus</i> Philp.
Saccus with apex rounded	31	
31. Harpes tapering to narrow apex, lower margin evenly rounded; genitalia proportionately small		<i>crenaeus</i> Meyr.
Harpes not tapering	32	
32. Costa of harpe prominent	33	
Costa of harpe hardly noticeable	34	
33. Uncus moderately broad, parallel-sided, slightly expanded apically; apex blunt; aedeagus with 4 or 5 long stout cornuti		<i>cyclopicus</i> Meyr.
Uncus narrow, tapering, pointed; aedeagus with dense oval patch of minute cornuti		<i>diplorrhous</i> Meyr.
34. Harpes subtriangular; flange of costa indicated by small chitinised papilla		<i>paraxenus</i> Meyr.
Harpes normal but bent rather upwards apically; flange of costa well developed, narrow but deep		<i>scitulus</i> Philp.

Orocrambus Meyrick. (Figs. 61 to 68).

A moderate genus almost confined to New Zealand, but with at least one representative in Australia.

The genitalia are normally entirely withdrawn into the eighth segment. From the base of the tegumen and arms of the vinculum a quantity of long fine hair rises and enfolds the structures. (This has been omitted in most of the figures). Tegumen similar to *Crambus*, not fused with vinculum; uncus proportionately rather narrow, pointed, slightly curved downwards apically. Gnathos usually broader than uncus, tongue tapering to point. Aedeagus as in *Crambus*, but chitinised apical portion tending to extend further beyond orifice. Juxta, when present, a small flattish plate. Harpes broad, lower margin strongly rounded to blunt apex; costa usually well developed with prominent flange. Vinculum broad and deep, usually continued without delimitation into short broad saccus; occasionally the saccus is rather long.

KEY TO THE SPECIES OF *OROCRAMBUS*.*

1. Apex of saccus truncate	2
Apex of saccus rounded	4
2. Saccus extremely short, hardly differentiated; juxta a cordate plate	<i>ventosus</i> Meyr.
Saccus longer; juxta not cordate	3

**Orocrambus subitus* Philp., in spite of its very Crambid-like facies, proves to be a *Scoparia*.

3. Saccus short; harpes with rather narrow apex; aedeagus without apical thorn	<i>scoparioides</i> Philp.
Saccus moderately long; harpes with dilated apex; aedeagus with apical thorn... ..	<i>catacaustus</i> Meyr.
4. Harpes very broad apically	5
Harpes moderately broad apically	6
5. Aedeagus with apical chitinised part strongly hooked	<i>melampetrus</i> Meyr.
Aedeagus with apical chitinised part not hooked...	<i>machaeristis</i> Meyr.
6. Harpes with costa little developed, flange absent ..	<i>thymiastes</i> Meyr.
Harpes with costa well developed	7
7. Saccus rather long; uncus parallel-sided, apex acute; apex of costa rounded, not prominent...	<i>mylites</i> Meyr.
Saccus rather short; uncus lanceolate; apex of costa rectangular, prominent	<i>tritonellus</i> Meyr.

Lettering: ae, aedeagus; at, anal tube; ar, arm of vinculum; bg, base of gnathos; cb, chitinised pieces between bases of harpes in *Crambus cyclopicus*; co, costa of harpe; cp, costal process; cpr, costal prong; cr, cornutus; cs, costal spines on harpes of *Argyria strophaea*; de, ductus ejaculatorius; f, flange of costa; g, gnathos; h, harpe; j, juxta; k, keel of saccus; lj, lobe of juxta; mh, median process on harpe of *Argyria pentadactyla*; s, saccus; t, tegumen; th, thorn or barb of aedeagus; tr, transtilla; u, uncus; v, vinculum. Unless otherwise stated, the views of the genitalia (A) are from the lateral aspect and those of the harpe (B) from within; those of the aedeagus (D) are usually lateral, but when not so the aspect is indicated by the position of the ejaculatory duct which almost invariably enters the aedeagus on its dorsal surface.

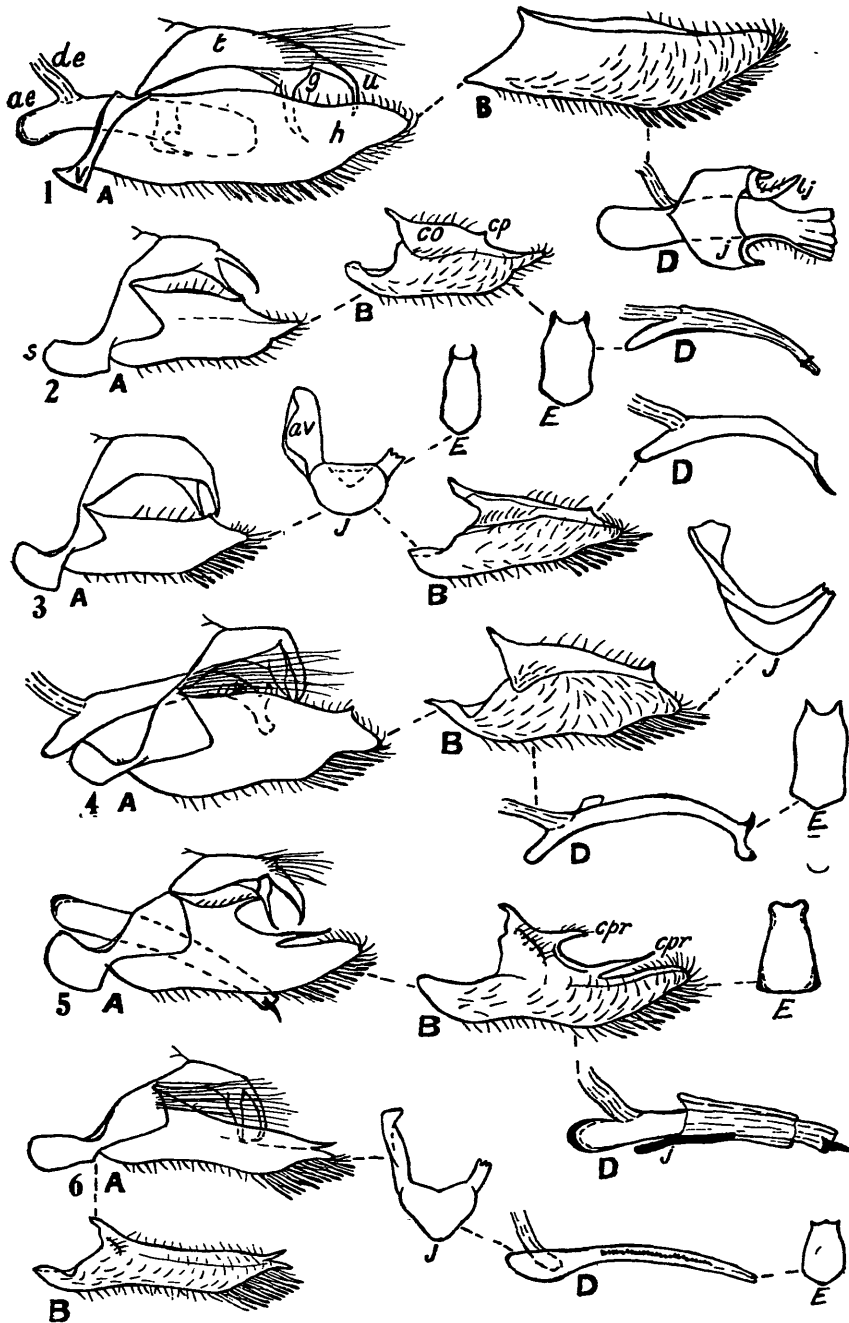
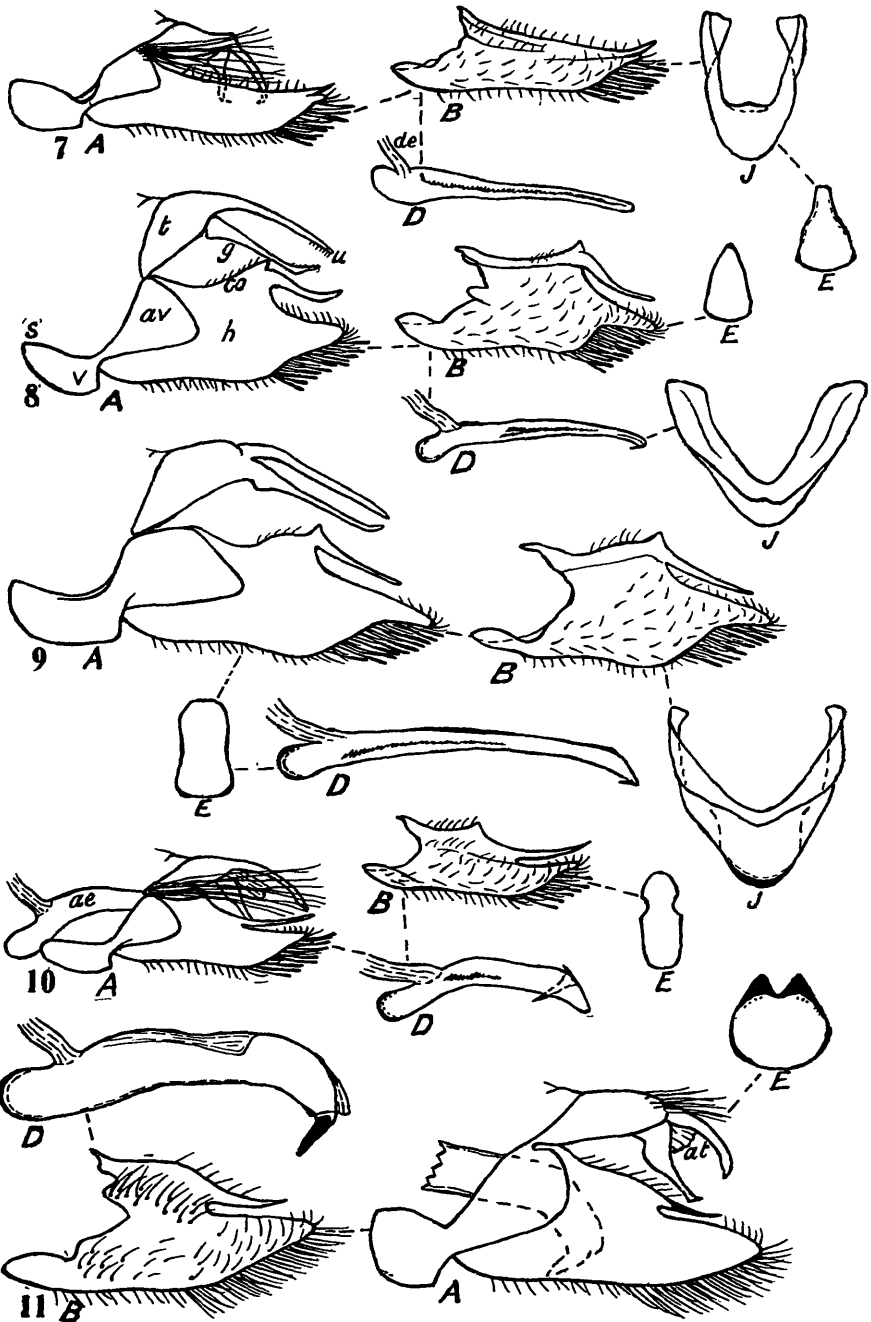


FIG. 1.—*Gadira acerella* Walk. A, male genitalia; B, harpe; D, aedeagus and juxta.
 FIG. 2.—*Diptychophora parorma* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta.
 FIG. 3.—*D. pyrsophanes* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.
 FIG. 4.—*D. holanthes* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.
 FIG. 5.—*D. auriscriptella* Walk. A, male genitalia; B, harpe; D, aedeagus; E, juxta.
 FIG. 6.—*D. chrysochyta* Meyr. A, male genitalia; B, harpe; D, aedeagus and juxta; E, juxta; J, vinculum.



- FIG. 7.—*D. elaina* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.
- FIG. 8.—*D. helioctypa* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.
- FIG. 9.—*D. lepidella* Walk. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.
- FIG. 10.—*D. bipunctella* Walk. A, male genitalia; B, harpe; D, aedeagus; E, juxta.
- FIG. 11.—*D. metallifera* Butl. A, male genitalia; B, harpe; D, aedeagus; E, juxta.

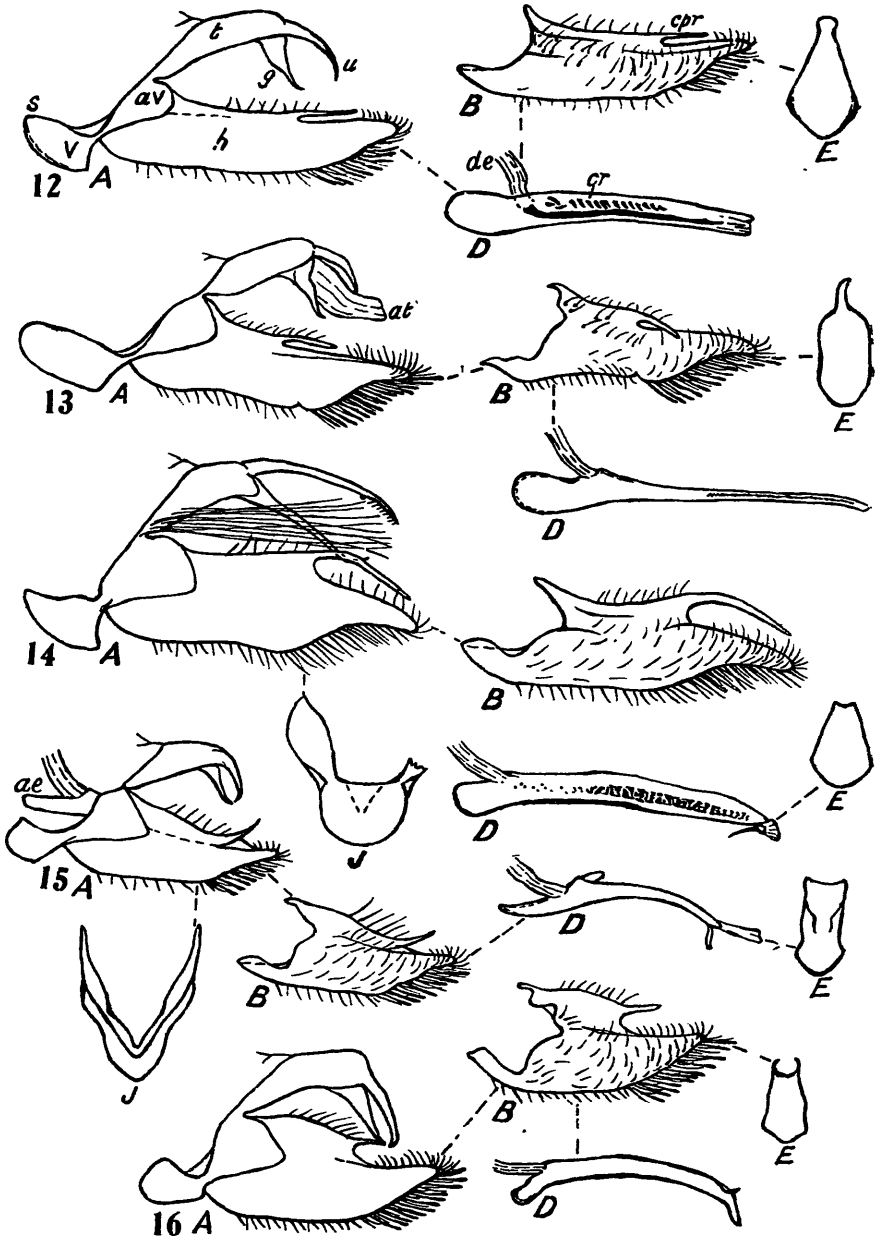


FIG. 12.—*D. leucosantha* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta.
 FIG. 13.—*D. interrupta* Feld. A, male genitalia; B, harpe; D, aedeagus; E, juxta.
 FIG. 14.—*D. selenaea* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.
 FIG. 15.—*D. microdora* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.
 FIG. 16.—*D. epiphaea* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta.

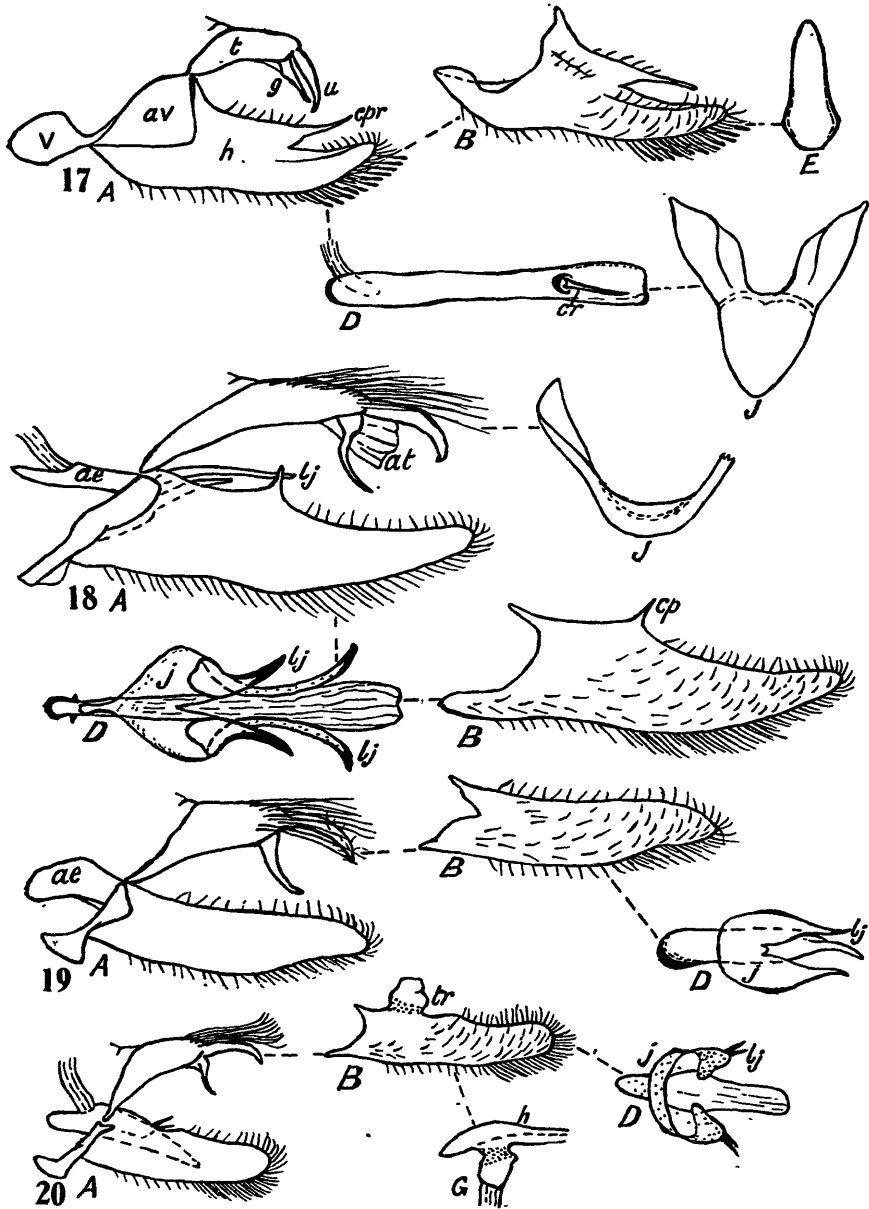


FIG. 17.—*D. harmonica* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; J, vinculum.

FIG. 18.—*Talis leucophthalma* Meyr. A, male genitalia; B, harpe; D, aedeagus and juxta; J, vinculum.

FIG. 19.—*Scenopiaca petraula* Meyr. A, male genitalia; B, harpe; D, aedeagus and juxta.

FIG. 20.—*Tauroscopa trapezitis* Meyr. A, male genitalia; B, harpe; D, aedeagus and juxta; G, transtilla.

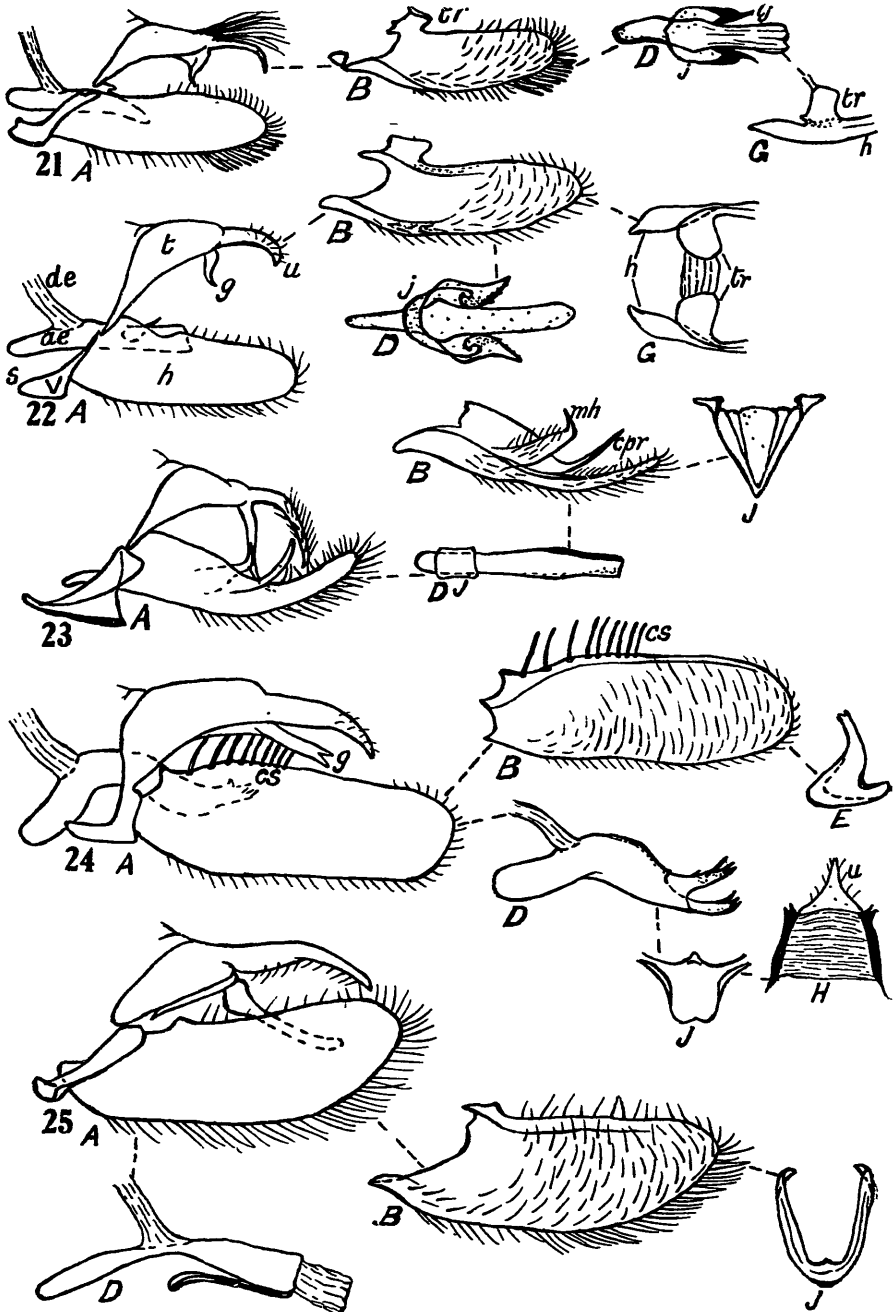


FIG. 21.—*T. notabilis* Philp. A, male genitalia; B, harpe; D, aedeagus and juxta; G, transtilla.
 FIG. 22.—*T. gorgopis* Meyr. A, male genitalia; B, harpe; D, aedeagus and juxta; G, transtilla.
 FIG. 23.—*Argyria pentadactyla* Z. A, male genitalia; B, harpe; D, aedeagus and juxta; J, vinculum.
 FIG. 24.—*A. strophaea* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; H, gnathos; J, vinculum.
 FIG. 25.—*Protyparcha scaphodes* Meyr. A, male genitalia; B, harpe; D, aedeagus; J, vinculum.

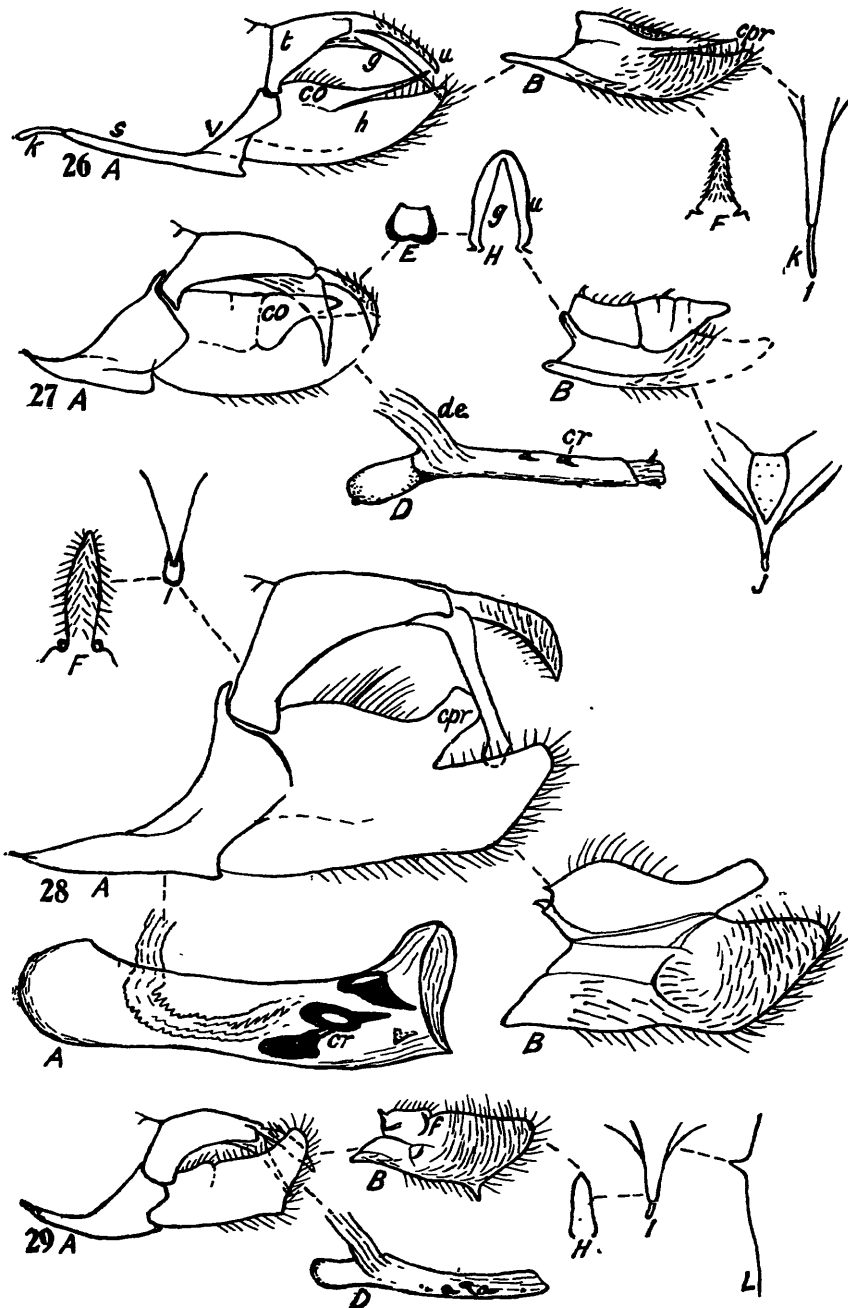


FIG. 26.—*Crambus apicellus* Z. A, male genitalia; B, harpe; F, uncus; I, saccus.
 FIG. 27.—*C. ornatus* Philp. A, male genitalia; B, harpe; D, aedeagus; E, juxta; H, gnathos and uncus; J, vinculum.
 FIG. 28.—*C. tuhualis* Feld. A, male genitalia; B, harpe; D, aedeagus; F, uncus; I, saccus.
 FIG. 29.—*C. apselias* Meyr. A, male genitalia; B, harpe; D, aedeagus; H, gnathos; I, saccus; L, lower margin of harpe, ventral view.

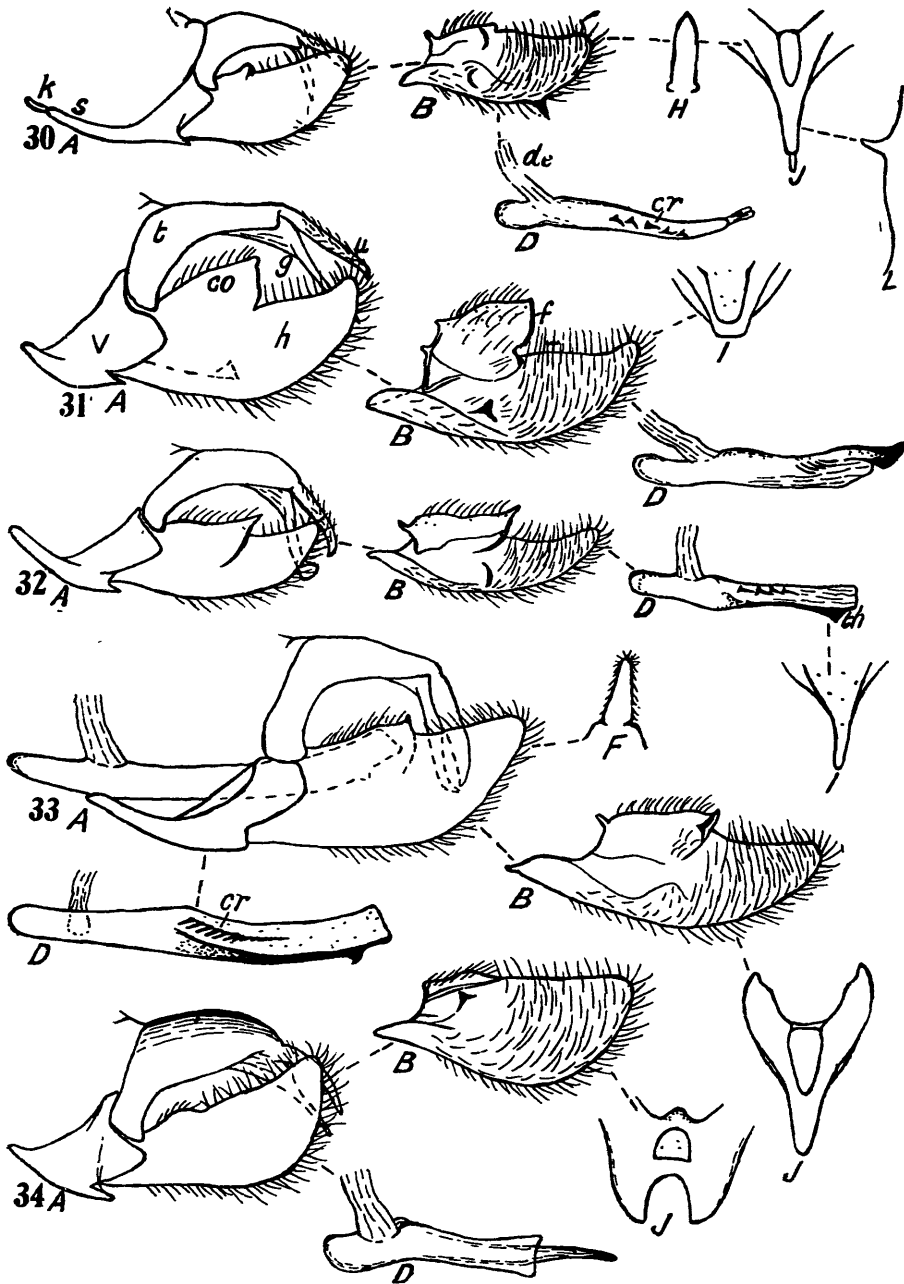


FIG. 30.—*C. ramosellus* Dbld. A, male genitalia; B, harpe; D, aedeagus; H, gnathos; J, vinculum; L, lower margin of harpe, ventral view.
 FIG. 31.—*C. heteraulus* Meyr. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 32.—*C. enchophorus* Meyr. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 33.—*C. vulgaris* Butl. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 34.—*C. heliotes* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; J, vinculum.

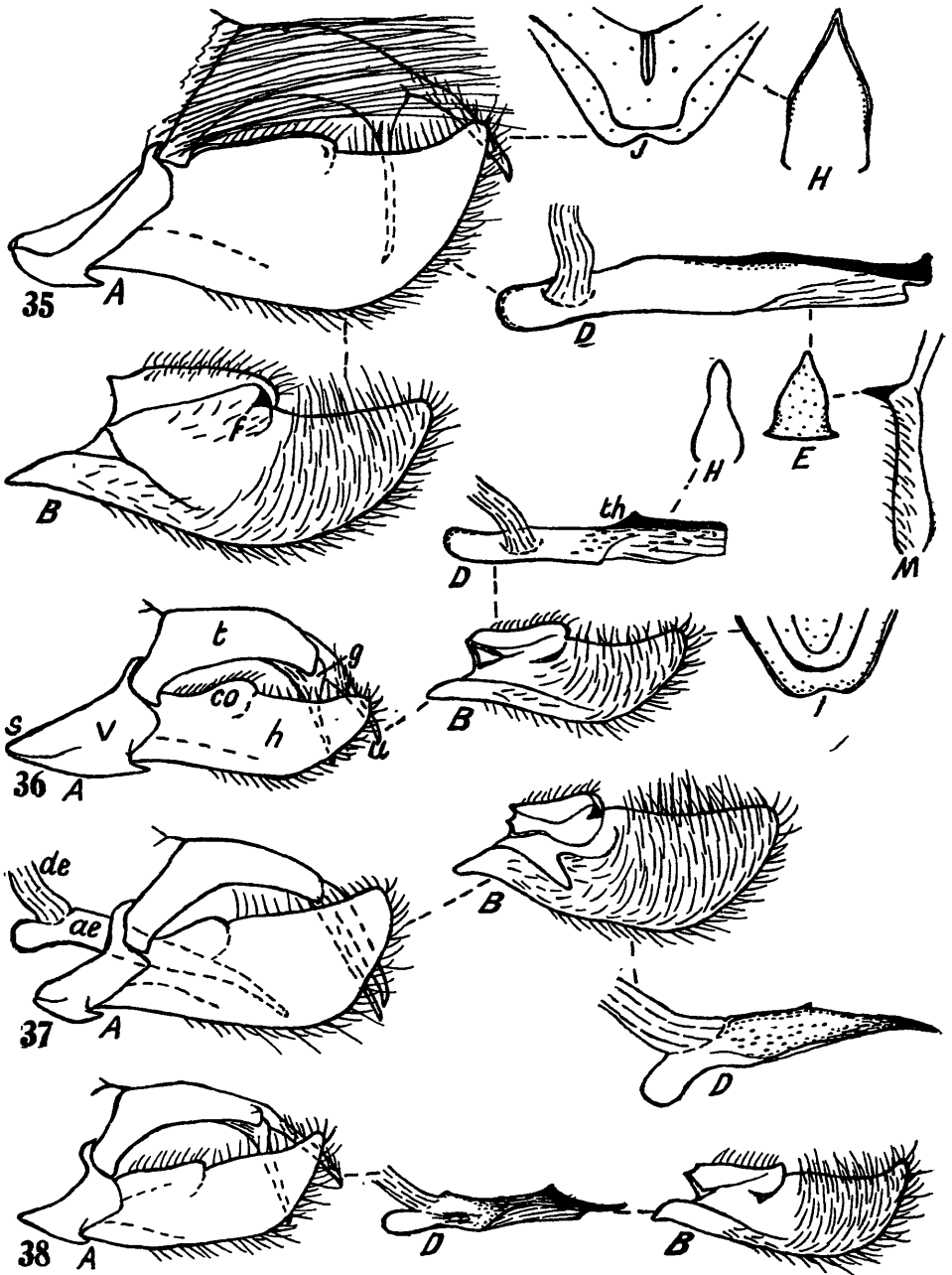


FIG. 35.—*C. dicrenellus* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; H, gnathos; J, vinculum; M, costal margin of harpe, dorsal view.

FIG. 36.—*C. corruptus* Butl. A, male genitalia; B, harpe; D, aedeagus.

FIG. 37.—*C. angustipennis* Z. A, male genitalia; B, harpe; D, aedeagus.

FIG. 38.—*C. ephorus* Meyr. A, male genitalia; B, harpe; D, aedeagus.

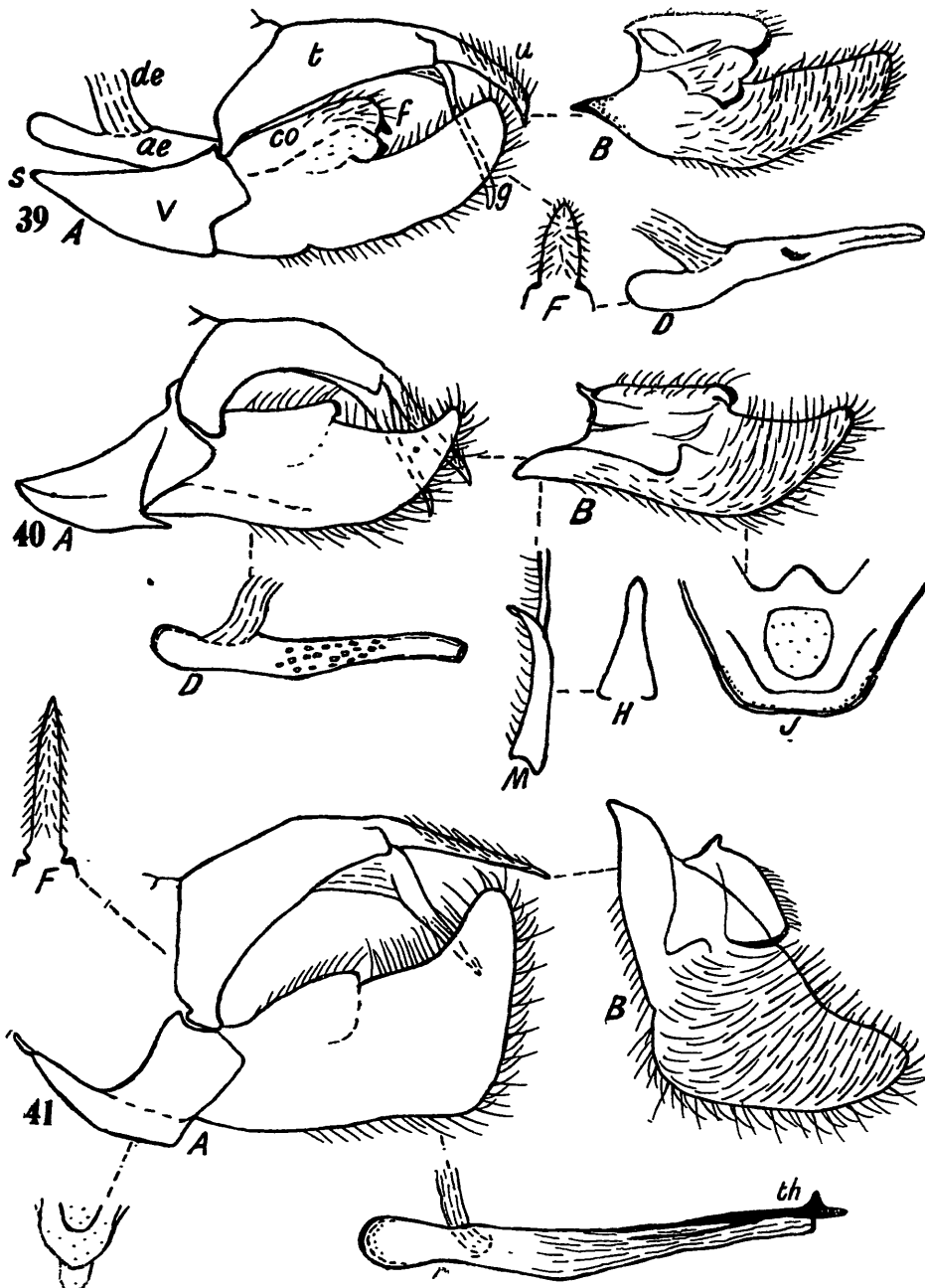


FIG. 39.—*C. xanthogrammus* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus.

FIG. 40.—*C. melitastes* Meyr. A, male genitalia; B, harpe; D, aedeagus; H, gnathos; J, vinculum; M, costal margin of harpe, dorsal view.

FIG. 41.—*C. flexuosellus* Dbl. A, male genitalia; B, harpe; D, aedeagus; F, uncus; I, saccus.

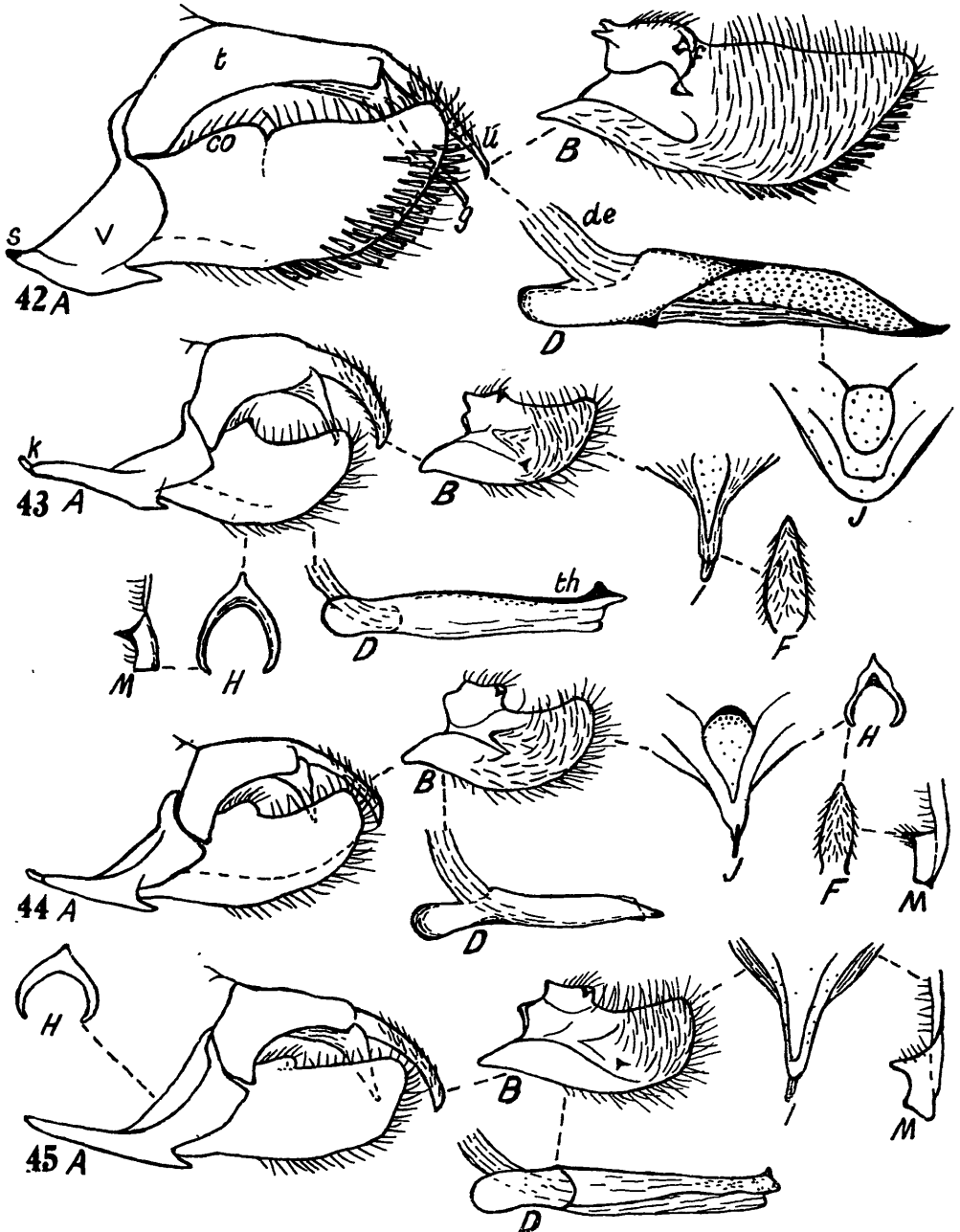


FIG. 42.—*C. oppositus* Philp. A, male genitalia; B, harpe; D, aedeagus; J, vinculum.

FIG. 43.—*C. saristes* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; H, gnathos; I, saccus; M, costal margin of harpe, dorsal view.

FIG. 44.—*C. meristes* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; H, gnathos; J, vinculum; M, costal margin of harpe, dorsal view.

FIG. 45.—*C. antimorus* Meyr. A, male genitalia; B, harpe; D, aedeagus; H, gnathos; I, saccus; M, costal margin of harpe, dorsal view.

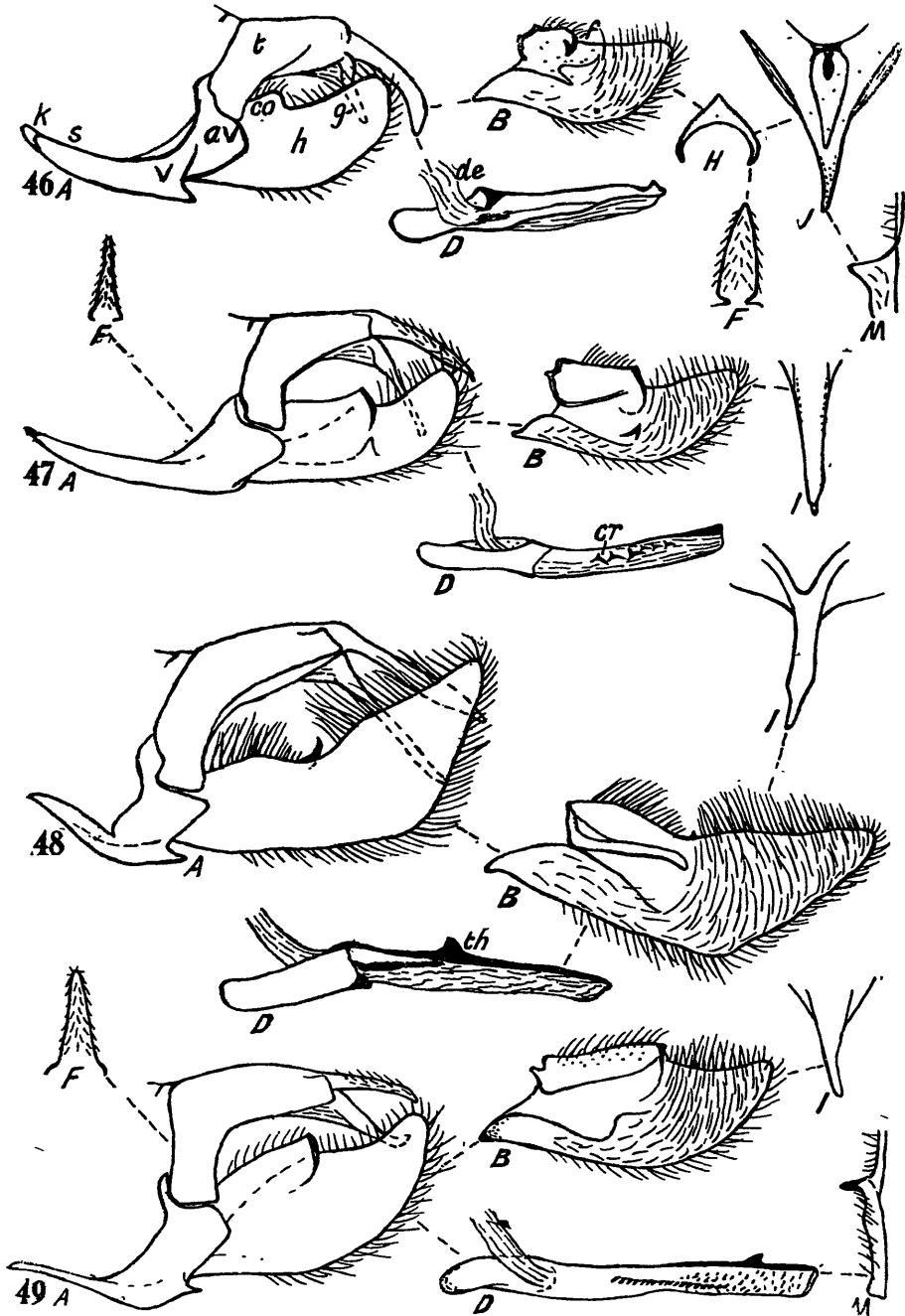


FIG. 46.—*C. heteranthes* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; H, gnathos; J, vinculum; M, costal margin of harpe, dorsal view.
 FIG. 47.—*C. siriellus* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; I, saccus.
 FIG. 48.—*C. vitellus* Dbld. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 49.—*C. obstructus* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; I, saccus; M, costal margin of harpe, dorsal view.

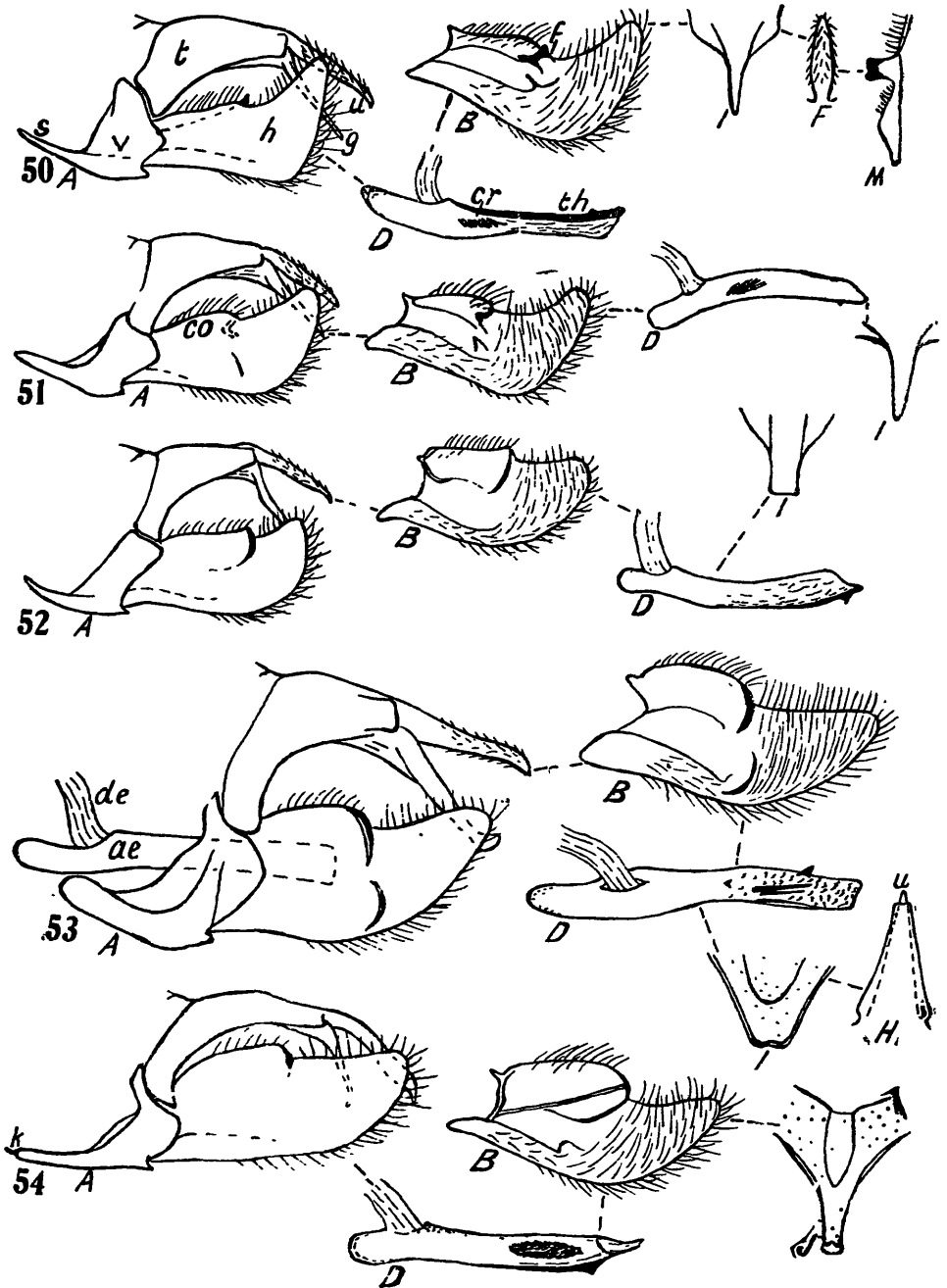


FIG. 50.—*C. schedias* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; I, saccus; M, costal margin of harpe, dorsal view.
 FIG. 51.—*C. callirrhous* Meyr. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 52.—*C. simplex* Butl. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 53.—*C. harpophorus* Meyr. A, male genitalia; B, harpe; D, aedeagus; H, gnathos; I, saccus.
 FIG. 54.—*C. isochytus* Meyr. A, male genitalia; B, harpe; D, aedeagus; J, vinculum.

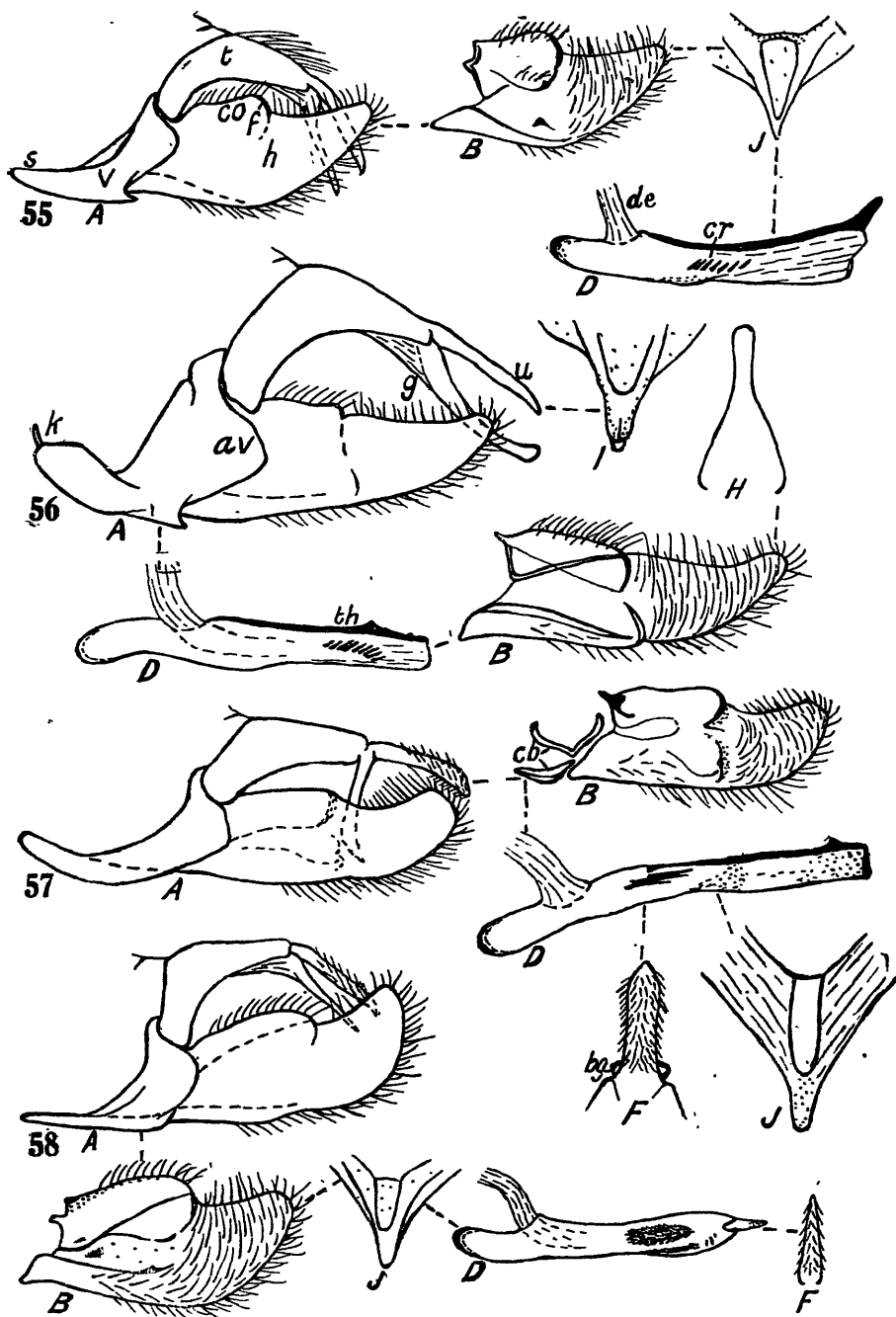


FIG. 55.—*C. scutatus* Philp. A, male genitalia; B, harpe; D, aedeagus; J, vinculum.

FIG. 56.—*C. crenaeus* Meyr. A, male genitalia; B, harpe; D, aedeagus; H, gnathos; I, saccus.

FIG. 57.—*C. cyclopicus* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; J, vinculum.

FIG. 58.—*C. diplorrhous* Meyr. A, male genitalia; B, harpe; D, aedeagus.

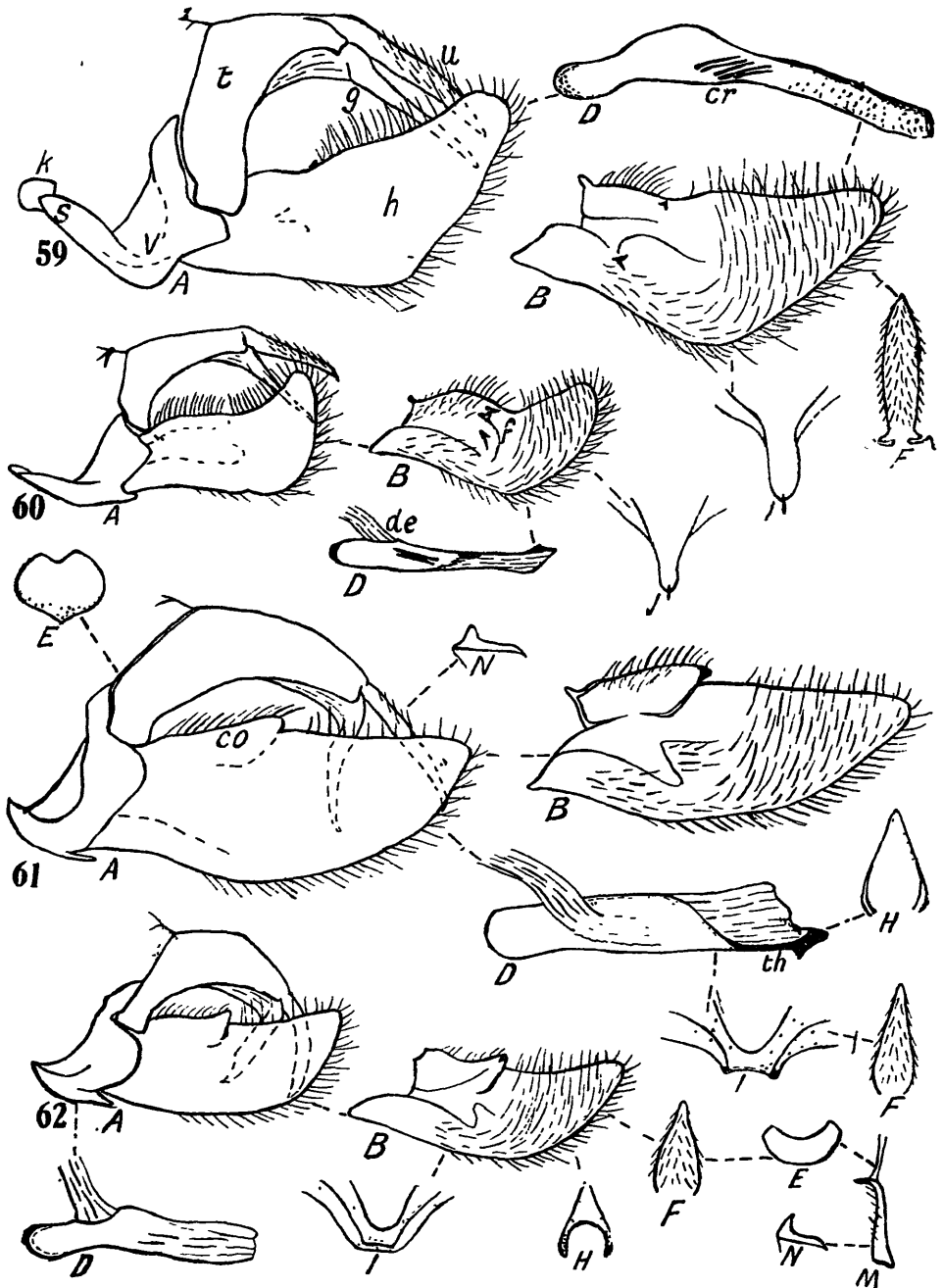


FIG. 59.—*C. paraxenus* Meyr. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 60.—*C. scitulus* Philp. A, male genitalia; B, harpe; D, aedeagus; I, saccus.
 FIG. 61.—*Orocrambus ventosus* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; F, uncus; H, gnathos; I, saccus; N, flange of costa, obliquely dorsal view.
 FIG. 62.—*O. scoparioides* Philp. A, male genitalia; B, harpe; D, aedeagus; E, juxta; F, uncus; H, gnathos; I, saccus; M, costal margin of harpe, dorsal view; N, flange of costa, obliquely dorsal view.

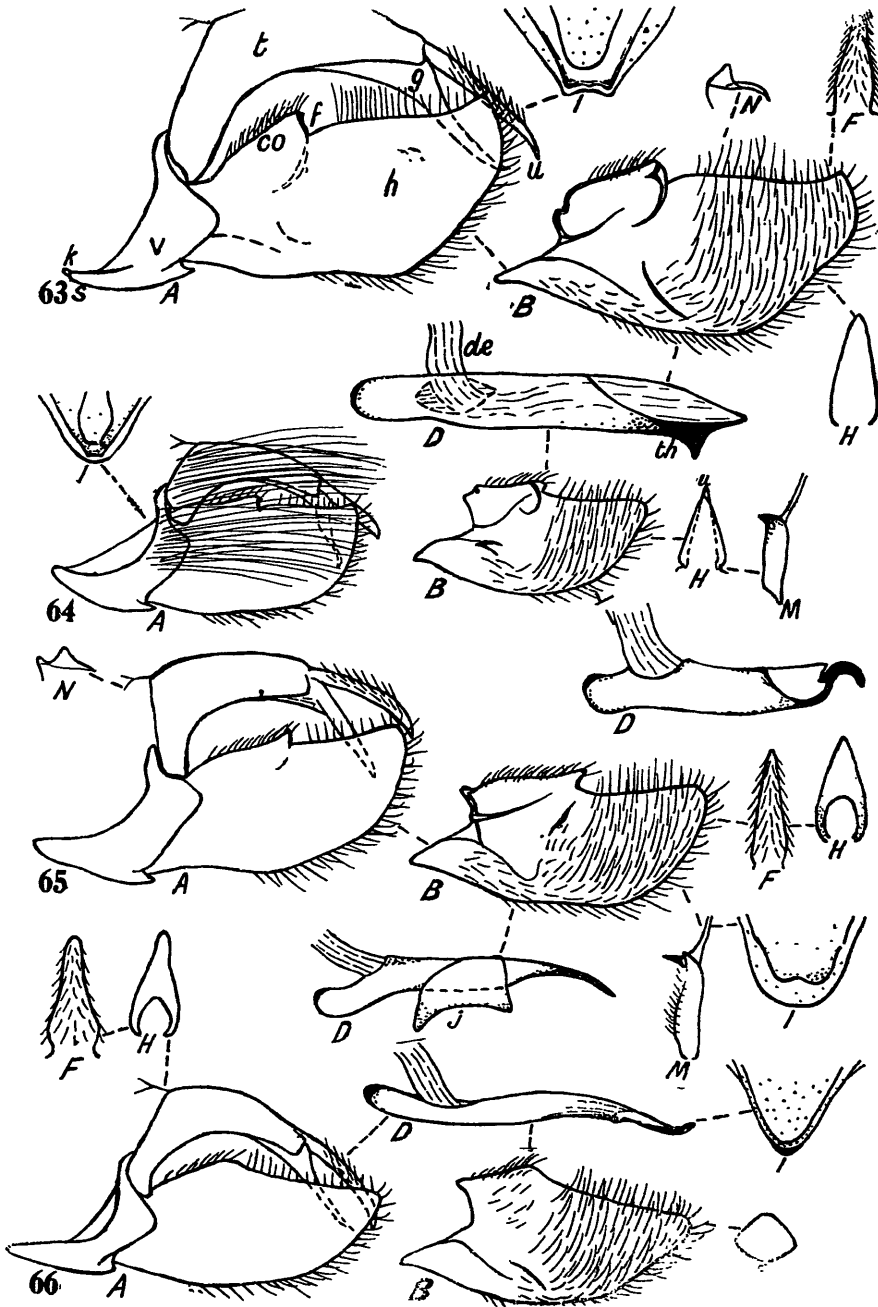


FIG. 63.—*O. catacaustus* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; H, gnathos; I, saccus; N, flange of costa, obliquely dorsal view.

FIG. 64.—*O. melampetrus* Meyr. A, male genitalia; B, harpe; D, aedeagus; H, gnathos; I, saccus; M, costal margin of harpe, dorsal view.

FIG. 65.—*O. machaeristes* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; H, gnathos; I, saccus; M, costal margin of harpe, dorsal view; N, flange of costa, obliquely dorsal view.

FIG. 66.—*O. thymiastes* Meyr. A, male genitalia; B, harpe; D, aedeagus; E, juxta; F, uncus; H, gnathos; I, saccus.

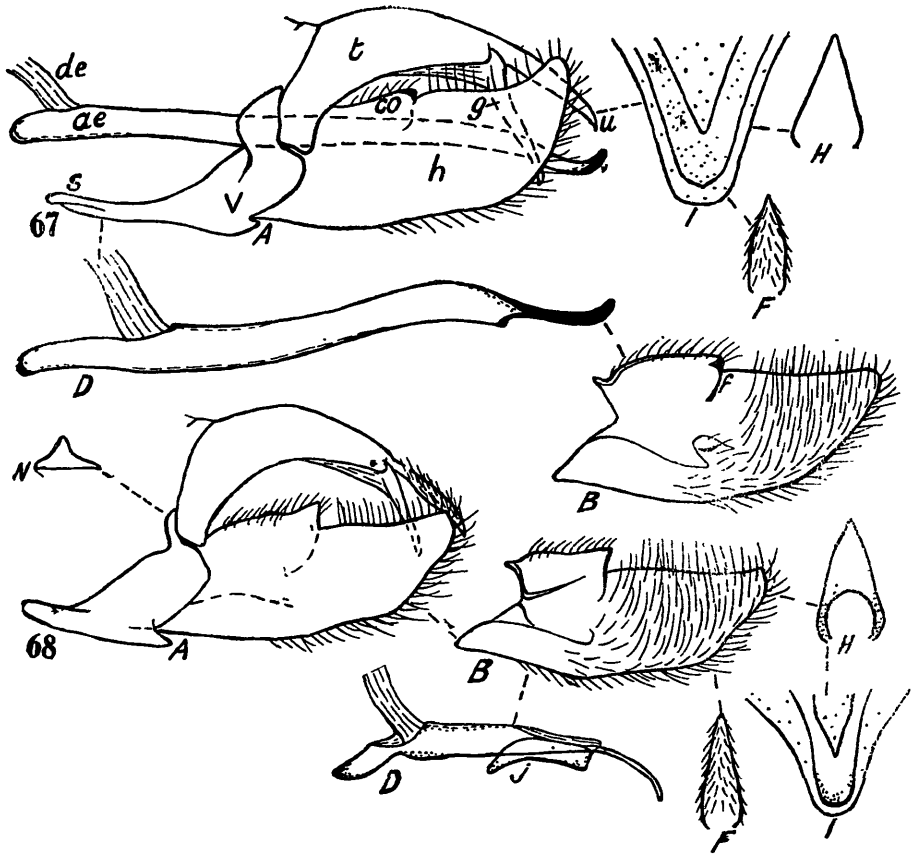


FIG. 67.—*O. mylites* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; H, gnathos; I, saccus.

FIG. 68.—*O. tritonellus* Meyr. A, male genitalia; B, harpe; D, aedeagus; F, uncus; H, gnathos; I, saccus; N, flange of costa, obliquely dorsal view.