

INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

- 1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.**
- 2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.**
- 3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.**
- 4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.**
- 5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.**

Xerox University Microfilms

300 North Zeeb Road
Ann Arbor, Michigan 48106

76-3547

SELMAN, Charles Leroy, 1937-
REVISION OF THE GENUS LACINIPOLIA McDUNNOUGH
OF AMERICA NORTH OF MEXICO (LEPIDOPTERA:
NOCTUIDAE).

The Ohio State University, Ph.D., 1975
Entomology

Xerox University Microfilms, Ann Arbor, Michigan 48106

REVISION OF THE GENUS LACINIPOLIA McDUNNOUGH OF AMERICA
NORTH OF MEXICO (LEPIDOPTERA:NOCTUIDAE)

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the
Degree Doctor of Philosophy in the Graduate School
of The Ohio State University

By

Charles Leroy Selman, B.S.E., M.S.

The Ohio State University

1975

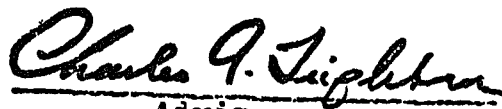
Reading Committee:

Dr. Charles A. Triplehorn

Dr. Donald J. Borror

Dr. Frank W. Fisk

Approved by


Adviser

Department of Entomology

ACKNOWLEDGEMENTS

The following institutions and individuals deserve thanks for loan of material (see page 3 for key to abbreviations):

AMNH - Dr. Fred Rindge
BKMC - Bryant and Katherine Mather
CMIC - Harry K. Clench
CNCI - Dr. David Hardwick
FMNH - Dr. Henry Dybas
LACM - Julian P. Donahue
MSUC - Dr. Roland Fischer
OSUC - Dr. C. A. Triplehorn
USNM - Dr. Ronald Hodges

Special mention must be made of Julian P. Donahue (LACM) and Lloyd M. Martin, Prescott, Arizona, without whose help this project positively could not have been finished in the time allowed. Mr. Martin devoted many years to a study of the Lacinipolia, making many slides of genitalia and collecting rare species. His courtesy in turning over all materials to me will never be forgotten. Likewise, Mr. Donahue labored many hours assembling and packing

over 11,000 specimens to send for my examination.

Thanks are due Dr. Ed Todd and Dr. Douglas Ferguson for their comments and help; also, the Entomology Department secretary Charlene Taylor who was never too busy to help with my trivial problems.

Gratefully acknowledged here are the hours spent with Tom Maloy of the Ohio State University Photographic Department in preparing and photographing the moths in this revision.

This study was supported in part by two grants from the Herbert Osborn Fund of the Ohio State University and one from an Ohio State University Dissertation Fellowship.

Contained in this revision are nine new species, all of which were named after those individuals that I felt contributed substantially to my entomological career, and without whom this revision would never have been done. I sincerely feel that this is little thanks for the enormous help they rendered. Their full names and contributions are listed alphabetically.

L. aileenae: Aileen Selman DeLong and Aileen I. Selman - Aileen DeLong is my mother whose financial and moral support throughout my eight years of college have been greatly appreciated. Aileen I. Selman is my

daughter. She has collected many moths and butterflies for me over the years and if this were not enough, I love her very much.

L. baueri: W. R. Bauer - He collected not only the new species here named but collected and donated many Lacinipolia to the LACM which in turn gave me access to them.

L. bucketti: J. S. Buckett - Like W. R. Bauer, Mr. Buckett also collected the new species here named and collected and donated many Lacinipolia to the LACM which gave me access to them.

L. delongi: Dr. Dwight M. DeLong - During the four years that I worked and studied toward my Ph.D., he offered many helpful suggestions and was never too busy to answer my unending questions.

L. fordii: Robert J. Ford - Like W. R. Bauer and J.S. Buckett, Mr. Ford collected not only the new species here named but collected and donated to the LACM many Lacinipolia which were made available to me.

L. franclemonti: Dr. John J. Franclemont - He helped me on numerous occasions not only on this revision but on other papers I have written.

L. martini: The contributions that this gentleman made toward this revision of the genus Lacinipolia are too numerous to mention here. Suffice it to say that the genus was in such a chaotic state before he turned his attention to it, that it would have taken me several more years to adequately complete it had it not been for the work he already had done. When this revision is published, I fully intend to include his name as co-author.

L. sharonae: Sharon A. Selman - Sharon is my wife who worked hard to keep household expenses within our capabilities during my eight years in college, who encouraged my work, and who spent months typing and retyping this revision. And if this were not enough, I love her very much.

L. triplehorni: Dr. Charles A. Triplehorn - I am most grateful to Dr. Triplehorn for serving as my advisor. His guidance, help and encouragement were without equal and his contributions to my entire graduate program will never be forgotten.

VITA

August 6, 1937..... Born - Steubenville, Ohio
1971..... B.S.E., Arkansas State
University, Jonesboro, Arkansas
1972..... M.S., The Ohio State University,
Columbus, Ohio
1972-1973..... Teaching Associate, Introductory
Biology Program and Department of
Entomology, The Ohio State
University, Columbus, Ohio.
1975..... Ph.D. candidate, The Ohio State
University, Columbus, Ohio.

PUBLICATIONS

"Spring Moth Activity in Relation to Locality, Temperature and Air Pressure." Journal of Research on the Lepidoptera. Spring, 1970.

"Seasonal Trends in Catches of Moths of Twelve Harmful Species in Blacklight Traps in Northeast Arkansas." Journal of Economic Entomology. August, 1972.

"The Relative Abundance, Seasonal Distribution and Taxonomy of the Sphingidae of Northeast Arkansas." Arkansas Academy of Science Proc. Vol. XXV, 1971.

"Observation of an Eye-Frequenting Geometrid in the United States." Journal of Medical Entomology. August, 1972.

"A Clarification of the Flight Periods of Several Sibling Species of Moths in Ohio as Indicated by Light Traps." Journal of Research on the Lepidoptera. December, 1973.

"Common Parasites that Infest Pigeons." National Pigeon Review. December, 1970.

"A Humane Method for Culling." National Pigeon Review.
September, 1970.

"A Progeny Test for Pigeons." Racing Pigeon Bulletin.
June 10, 1974. American Racing Pigeon News. July/August,
1974.

"World's Pacing Championship Returns to Tennessee." Voice
of the Tennessee Walking Horse. January, 1972.

"Horseman in the White House." Horse Lover's Magazine.
September/October, 1972.

"A Cure for Halter-Pullers." Horse and Rider Magazine.
February, 1972.

"Shepherd F. Knapp...Damned Yankee." The Morgan Horse.
March, 1972.

"Maggie Marshall - Unsung Heroine." The Morgan Horse.
December, 1972.

"Allan F-1, Scion of Royalty." Voice of the Tennessee
Walking Horse. January, 1973.

"The Dolly Spanker Controversy." Voice of the Tennessee
Walking Horse. August, 1973.

"Messenger - A Founding Father." The Western Horseman.
August, 1973.

"Justin Morgan - A Founding Father," Part I. The Western
Horseman. June, 1974.

"Justin Morgan - A Founding Father," Part II. The Western
Horseman. July, 1974.

"Justin Morgan - A Founding Father," Part III. The
Western Horseman. August, 1974.

"Sir Archy - A Founding Father," Part I. (In press).
The Western Horseman.

"Sir Archy - A Founding Father," Part II. (In press).
The Western Horseman.

"Sir Archy - A Founding Father," Part III. (In press).
The Western Horseman.

"The Hawkmoths of the Eastern United States." Ohio
Biological Survey. 1975.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS.....	i
VITA.....	v
LIST OF FIGURES.....	vii
INTRODUCTION.....	1
SOURCES OF MATERIAL EXAMINED.....	3
METHODS AND MATERIALS.....	4
GENUS <u>LACINIPOLIA</u> McDUNNOUGH.....	10
CATALOG OF <u>LACINIPOLIA</u> McDUNNOUGH IN	
AMERICA NORTH OF MEXICO.....	12
KEY TO SPECIES OF <u>LACINIPOLIA</u> McDUNNOUGH	
IN AMERICA NORTH OF MEXICO (Based	
largely on superficial characters).....	19
KEY TO SPECIES OF <u>LACINIPOLIA</u> McDUNNOUGH	
IN AMERICA NORTH OF MEXICO (Based	
largely on genitalia).....	50
SPECIES TREATMENT.....	78
LITERATURE CITED.....	282
FIGURES.....	288

LIST OF FIGURES

1. Lacinipolia uliginosa (Smith), male head (only basal segments of antennae and proboscis), denuded, front view.
2. Same, except lateral view.
3. Lacinipolia stenotis (Hampson), male metathoracic leg, denuded, lateral view.
4. Same, mesothoracic leg, lateral view.
5. Same, prothoracic leg, lateral view.
6. Lacinipolia lepidula (Smith), male, lateral view
7. Same, except front view.
8. Lacinipolia incurva (Smith), male, simple pubescent, lateral view (typical of females).
9. Lacinipolia uliginosa (Smith), male, simple, bristled or fasciculate, lateral view.
10. Lacinipolia longiclava (Smith), male, simple pubescent, lateral view.
11. Lacinipolia rodora (Dyar), male, pectinate, front view.
12. Lacinipolia anguina (Grote), male genitalia, caudal view.
13. Same, aedaeagus (inflated vesica), lateral view.
14. Lacinipolia longiclava (Smith), right valve, inside lateral view.
15. Lacinipolia prognata McDunnough, aedaeagus (inflated vesica), lateral view.
16. Same, male genitalia, caudal view.
17. Lacinipolia olivacea (Morrison), female genitalia, ventral view.

18. Lacinipolia consimilis McDunnough, female genitalia, ventral view.
19. Lacinipolia anguina (Grote), tip of clasper, lateral view.
20. Same, right valve, lateral view.
21. Lacinipolia incurva (Smith), right valve, lateral view.
22. Same, tip of clasper, lateral view.
23. Same.
24. Same, tip of clasper and cucullus, lateral view.
25. Lacinipolia leucogramma (Grote), male genitalia, caudal view.
26. Same, aedaeagus (inflated vesica), lateral view.
27. Lacinipolia umbrosa (Smith), male genitalia, caudal view.
28. Same, aedaeagus (partly inflated vesica), lateral view.
29. Same, clasper, lateral view.
30. Same.
31. Same.
32. Same, tip of cucullus, lateral view.
33. Same.
34. Same.
35. Lacinipolia uliginosa (Smith), male genitalia, caudal view.
36. Same, aedaeagus (partly inflated vesica), lateral view.
37. Same, tip of cucullus, lateral view.
38. Same.
39. Same, clasper, lateral view.

40. Same.
41. Lacinipolia palilis (Harvey), tip of cucullus, lateral view.
42. Same.
43. Same, clasper, lateral view.
44. Same.
45. Same, male genitalia, caudal view.
46. Same, aedaeagus (partly inflated vesica), lateral view.
47. Lacinipolia vittula (Grote), tip of cucullus, lateral view.
48. Same.
49. Same.
50. Same, clasper, lateral view.
51. Same.
52. Same.
53. Same, male genitalia, caudal view.
54. Same, aedaeagus (partly inflated vesica), lateral view.
55. Lacinipolia stenotis (Hampson), tip of cucullus, lateral view.
56. Same.
57. Same.
58. Same, clasper, lateral view.
59. Same.
60. Same.
61. Same, male genitalia, caudal view.
62. Same, aedaeagus (partly inflated vesica), lateral view.

63. Lacinipolia lustralis (Grote), male genitalia, caudal view.
64. Same, aedaeagus (inflated vesica), lateral view.
65. Lacinipolia gnata (Grote), male genitalia, caudal view.
66. Same, aedaeagus (inflated vesica), lateral view.
67. Lacinipolia delongi n. sp., right valve, lateral view.
68. Same, aedaeagus, lateral view.
69. Lacinipolia naevia (Smith), male genitalia, caudal view.
70. Same, aedaeagus (inflated vesica), lateral view.
71. Lacinipolia agnata (Smith), male genitalia, caudal view.
72. Same, aedaeagus (inflated vesica), lateral view.
73. Lacinipolia lepidula (Smith), male genitalia, caudal view.
74. Same, upper edge of sacculus, 440X.
75. Same, aedaeagus (inflated vesica), lateral view.
76. Lacinipolia luteimacula (Barnes and Benjamin), male genitalia, caudal view.
77. Same, upper edge of sacculus, 440X.
78. Same, aedaeagus (inflated vesica), lateral view.
79. Lacinipolia aileenae n. sp., right valve, lateral view.
80. Lacinipolia teligera (Morrison), right valve, lateral view.
81. Lacinipolia pensilis (Grote), male genitalia, caudal view.
82. Same, corner section of cucullus, 440X.
83. Same, aedaeagus (inflated vesica), lateral view.

84. Lacinipolia pensilis (Grote), enlargement of process marked "A" on Figure 83 as it appears in lateral view, 440X.
85. Same, shows variation between specimens.
86. Same.
87. Lacinipolia acutipennis (Grote), male genitalia, caudal view.
88. Same, aedaeagus (inflated vesica) lateral view.
89. Lacinipolia vicina (Grote), aedaeagus (inflated vesica), lateral view.
90. Same, enlargement of process marked "A" as it appears in lateral view, 440X.
91. Same, shows variation between specimens.
92. Same, male genitalia, caudal view.
93. Same, corner section of cucullus, 440X.
94. Lacinipolia erecta (Walker), male genitalia, caudal view.
95. Same, aedaeagus (inflated vesica), lateral view.
96. Lacinipolia triplehorni, n. sp., right valve, lateral view.
97. Same, aedaeagus (inflated vesica), lateral view.
98. Lacinipolia cuneata (Grote), male genitalia, caudal view.
99. Same, enlargement of circled area, 440X.
100. Same, aedaeagus (inflated vesica), lateral view.
101. Lacinipolia patalis (Grote), male genitalia, caudal view.
102. Same, enlargement of cucullus, 100X.

103. Lacinipolia olivacea (Morrison), aedaeagus (inflated vesica; spines near base of vesica not showing - same as Figure 115), lateral view.
104. Lacinipolia patalis (Grote), aedaeagus (inflated vesica), lateral view.
105. Lacinipolia olivacea (Morrison), male genitalia, caudal view.
106. Same, corner section of cucullus, 100X.
107. Lacinipolia comis (Grote), right valve, lateral view.
108. Lacinipolia olivacea (Morrison), right valve, lateral view.
109. Lacinipolia olivacea (Morrison), clasper and membranous flap of male genitalia drawn to same scale.
110. Same, showing variation between specimens.
111. Same.
112. Lacinipolia comis (Grote), clasper and membranous flap of male genitalia drawn to same scale.
113. Same, showing variation between specimens.
114. Lacinipolia davena (Smith), male genitalia, caudal view.
115. Same, enlarged section of vesica illustrating spines, 100X.
116. Same, aedaeagus (inflated vesica), lateral view.
117. Lacinipolia davena (Smith), right valve, lateral view.
118. Lacinipolia sharonae n. sp., right valve, lateral view.
119. Lacinipolia rectilinea (Smith), right valve, lateral view.
120. Lacinipolia bucketti n. sp., right valve, lateral view.
121. Lacinipolia baueri n. sp., right valve, lateral view.

122. Lacinipolia lorea (Guenee), male genitalia, caudal view.
123. Same, enlargement of clasper, 330X.
124. Lacinipolia basiplaga (Smith), male genitalia, caudal view.
125. Same, enlargement of cucullus, 200X.
126. Lacinipolia laudabilis (Guenee), male genitalia, caudal view.
127. Same, enlargement of cucullus, 200X.
128. Lacinipolia consimilis McDunnough, male genitalia, caudal view.
129. Same, enlargement of cucullus, 200X.
130. Lacinipolia runica (Hampson), male genitalia, caudal view.
131. Same, enlargement of cucullus, 200X.
132. Lacinipolia implicata McDunnough, male genitalia, caudal view.
133. Lacinipolia viridifera McDunnough, male genitalia, caudal view.
134. Lacinipolia explicata McDunnough, male genitalia, caudal view.
135. Same, aedaeagus (inflated vesica), lateral view.
136. Lacinipolia quadrilineata (Grote), male genitalia, caudal view.
137. Same, aedaeagus (inflated vesica), lateral view.
138. Lacinipolia martini n. sp., apex of aedaeagus (base of vesica), 60X.
139. Lacinipolia quadrilineata (Grote), apex of aedaeagus (base of vesica), 60X.
140. Lacinipolia tricornuta McDunnough, male genitalia, caudal view.
141. Same, aedaeagus (inflated vesica), lateral view.

142. Lacinipolia strigicollis (Wallengren) right valve, lateral view.
143. Lacinipolia dilatata (Smith), right valve, lateral view.
144. Lacinipolia strigicollis (Wallengren), male genitalia, caudal view.
145. Same, apex of aedaeagus (base of vesica), 200X.
146. Same, showing variation between specimens.
147. Same.
148. Lacinipolia dilatata (Smith), apex of aedaeagus (base of vesica), 200X.
149. Same, showing variation between specimens.
150. Lacinipolia marinitincta (Harvey), male genitalia, caudal view.
151. Same, aedaeagus (inflated vesica), lateral view.
152. Same, uncus, 60X.
153. Lacinipolia spiculosa (Grote), male genitalia, caudal view.
154. Same, aedaeagus (inflated vesica), lateral view.
155. Lacinipolia renigera (Stephens), male genitalia, caudal view.
156. Lacinipolia stricta (Walker), male genitalia, caudal view.
157. Lacinipolia rodora (Dyar), male genitalia, caudal view.
158. Same, aedaeagus (inflated vesica), lateral view.
159. Lacinipolia fordi n. sp., male genitalia, caudal view.
160. Same, aedaeagus (inflated vesica), lateral view.
161. Same, right valve, lateral view.
162. Lacinipolia franclemonti n. sp., right valve, lateral view.

163. Lacinipolia runica (Hampson), female genitalia, ventral view.
164. Lacinipolia fordii n. sp., same.
165. Lacinipolia naevia (Smith), same.
166. Lacinipolia pensilis (Grote), same.
167. Lacinipolia agnata (Smith), same.
168. Lacinipolia martini n. sp., same.
169. Lacinipolia triplehorni n. sp., same.
170. Lacinipolia umbrosa (Smith), same.
171. Lacinipolia incurva (Smith), same.
172. Lacinipolia vittula (Grote), same.
173. Lacinipolia renigera (Stephens), same.
174. Lacinipolia basiplaga (Smith), same.
175. Lacinipolia rodora (Dyar), same.
176. Lacinipolia erecta (Walker), same.
177. Lacinipolia acutipennis (Grote), genital plate and periostium, ventral view, 100X.
178. Lacinipolia vicina (Grote), same.
179. Lacinipolia teligera (Morrison), same.
180. Lacinipolia meditata (Grote), right valve, lateral view.

181. Lacinipolia marinitincta (Harvey), genital plate and periostium, ventral view, 100X.
182. Lacinipolia rectilinea (Smith), same.
183. Lacinipolia comis (Grote), same.
184. Lacinipolia umbrosa (Smith), same.
185. Lacinipolia vittula (Grote), same.
186. Lacinipolia leucogramma (Grote), same.
187. Lacinipolia stricta (Walker), same.
188. Lacinipolia uliginosa (Smith), same.
189. Lacinipolia palilis (Harvey), same.
190. Lacinipolia runica (Hampson), same.
191. Lacinipolia stenotis (Hampson), same.
192. Lacinipolia explicata McDunnough, same.
193. Lacinipolia tricornuta McDunnough, same.
194. Lacinipolia dilatata (Smith), same.
195. Lacinipolia implicata McDunnough, same.
196. Lacinipolia martini n. sp., same.
197. Lacinipolia quadrilineata (Grote), same.
198. Lacinipolia strigicollis (Wallengren), same.
199. Lacinipolia lustralis (Grote), same.
200. Lacinipolia agnata (Smith), same.
201. Lacinipolia gnata (Grote), same.
202. Lacinipolia prognata McDunnough, same.
203. Lacinipolia luteimacula (Barnes and Benjamin), same.

204. Lacinipolia anguina (Grote), male, Wisconsin.
205. Same.
206. Same, female, Missouri.
207. Same, female, Wisconsin.
208. Same, male, Newfoundland.
209. Lacinipolia incurva (Smith), male, Arizona.
210. Same, female, Colorado.
211. Lacinipolia longiclava (Smith), male, Colorado.
212. Same, female, Colorado.
213. Lacinipolia leucogramma (Grote), male, California.
214. Same.
215. Same, female, Texas.
216. Lacinipolia umbrosa, male, Colorado.
217. Same, female, Colorado.
218. Lacinipolia uliginosa (Smith), male, Texas.
219. Same, female, Texas.
220. Lacinipolia palilis (Harvey), male Texas.
221. Same, female, Texas.
222. Lacinipolia vittula (Grote), male, Colorado.
223. Same, female, Arizona.
224. Lacinipolia stenotis, male, Utah.
225. Same, female, California.
226. Lacinipolia lustralis (Grote), male, Wisconsin.
227. Same, female, Wisconsin.
228. Lacinipolia meditata (Grote), male, Pennsylvania.
229. Same, female, Pennsylvania.
230. Lacinipolia gnata (Grote), male, Arizona.

231. Same, female, Arizona.
232. Lacinipolia prognata McDunnough, male, Arizona.
233. Same, female, Arizona.
234. Lacinipolia delongi n. sp., male, Arizona.
235. Same, female, Arizona.
236. Licinipolia agnata (Smith), male, Arizona.
237. Same, female, Arizona.
238. Lacinipolia naevia (Smith), male, Colorado.
239. Same, female, Colorado.
240. Lacinipolia lepidula (Smith), male, Arizona.
241. Same, female, Arizona.
242. Lacinipolia luteimacula (Barnes and Benjamin), male, Colorado.
243. Same, female, Nova Scotia.
244. Lacinipolia teligera (Morrison), male, Pennsylvania.
245. Same, female, Texas.
246. Lacinipolia aileenae n. sp, male, Arizona.
247. Same, female, Arizona.
248. Same.
249. Lacinipolia pensilis (Grote), male, Idaho.
250. Same, female, California.
251. Same, male, Utah.
252. Lacinipolia vicina (Grote), male, New York.
253. Same, female, Michigan.
254. Same, male, Arizona.
255. Same, female, Arizona.
256. Lacinipolia acutipennis (Grote), male, California.

257. Same, female, California.
258. Lacinipolia erecta (Walker), male, Texas.
259. Same, female, Texas.
260. Same.
261. Lacinipolia triplehorni n. sp., male, Arizona.
262. Same, female, Arizona.
263. Lacinipolia cuneata (Grote), male, Washington.
264. Same, female, Washington.
265. Lacinipolia patalis (Grote), male, California.
266. Same, female, California.
267. Same, female, British Columbia.
268. Lacinipolia sharonae n. sp., male, Arizona.
269. Same, female, Arizona.
270. Lacinipolia rectilinea (Smith), male, Washington.
271. Same, female, Washington.
272. Lacinipolia comis (Grote), male, Washington.
273. Same, male, California.
274. Same, male, Idaho.
275. Same, male, Washington.
276. Same, female, California.
277. Same.
278. Lacinipolia bucketti n. sp., male, California.
279. Same, female, California.
280. Lacinipolia baueri n. sp., male, California.
281. Same, female, California.
282. Lacinipolia olivacea (Morrison), male, Wisconsin.

283. Same, male, Oregon.
284. Same, male, Wisconsin.
285. Same, male, Colorado.
286. Same, male, New Hampshire.
287. Same, female, New Mexico.
288. Same, female, Wisconsin.
289. Same, female, Oregon.
290. Same, female, Maine.
291. Same, female, Colorado.
292. Lacinipolia davena (Smith), male, California.
293. Same, male, Oregon.
294. Same, female, Oregon.
295. Same, female, Idaho.
296. Lacinipolia lorea (Guenee), male, Idaho.
297. Same, female, Maine.
298. Same, female, Pennsylvania.
299. Lacinipolia basiplaga (Smith), male, Arizona.
300. Same, female, Arizona.
301. Lacinipolia laudabilis (Guenee), male, Texas.
302. Same, female, Texas.
303. Lacinipolia consimilis McDunnough, male, Arizona.
304. Same, female, Arizona.
305. Lacinipolia runica (Hampson), male, Arizona.
306. Same, female, Arizona.
307. Lacinipolia viridifera McDunnough, male, Arizona.
308. Same, male, Arizona.

309. Same, female, Arizona.
310. Same, female, Arizona.
311. Lacinipolia tricornuta McDunnough, male, Arizona.
312. Same, female, Texas.
313. Lacinipolia implicata McDunnough, male, Michigan.
314. Same, female, New Jersey.
315. Lacinipolia explicata McDunnough, male, Arkansas.
316. Same, female, Texas.
317. Lacinipolia quadrilineata (Grote), male, California.
318. Same, female, California.
319. Lacinipolia martini n. sp., male, Arizona.
320. Same, female, Arizona.
321. Lacinipolia dilatata (Smith), male, Texas.
322. Same.
323. Same, female, Texas.
324. Same.
325. Lacinipolia strigicollis (Wallengren), male, Arizona.
326. Same, male, California.
327. Same, female, California.
328. Same.
329. Same, male, Oregon.
330. Same, female, Oregon.
331. Same, male, California.
332. Same, female, Texas.
333. Lacinipolia marinitincta (Harvey), male, Colorado.
334. Same, female, Texas.

335. Lacinipolia strigicollis (Wallengren), male, California.
336. Same, female, California.
337. Lacinipolia spiculosa (Grote), male, Arizona.
338. Same, female, Arizona.
339. Lacinipolia renigera (Stephens), male, Pennsylvania.
340. Same, female, Wisconsin.
341. Lacinipolia stricta (Walker), male, Oregon.
342. Same, female, Vancouver Island.
343. Same, male, Oregon.
344. Same, female, California.
345. Same, male, Utah.
346. Same, female, Utah.
347. Same, male, California.
348. Same, female, California.
349. Lacinipolia rodora (Dyar), male, Arizona.
350. Same, female, Arizona.
351. Lacinipolia fordii n. sp., male, Arizona.
352. Same, female, Arizona.
353. Lacinipolia franclemonti n. sp., male, Arizona.
354. Same, female, Arizona.

INTRODUCTION

The species of moths that constitute the genus Lacinipolia have been in a chaotic state for many years, largely because identification of species has been difficult, even for the specialists. Heretofore, descriptions and illustrations were inadequate. Most of the original descriptions occupy only a few lines of text and are largely useless for identification. Even Smith's (1891b) revision of the Mamestra, which contained many of the species now placed in the Lacinipolia, lacked much. His use of superficial characters such as wing markings and his drawings of the genitalia (males only were drawn) are difficult to interpret for many species. Certainly the uniquely marked species can be identified from Smith's descriptions, but the obscurely marked or closely related species in which the male genitalia are similar can be recognized only after much labor, if at all. He also failed to provide photographs of adults, and these are nearly always helpful.

The only other attempt to group these species into the newly formed genus Lacinipolia was made by McDunnough (1938) in his Checklist. Much is owed to him for the

detailed work that he performed in order to correctly place many species therein. Also, his descriptions of several new species of Lacinipolia are quite complete, as are his illustrations of their genitalia. Other than Smith (1891b) and McDunnough (1938), no taxonomists have dealt with the genus as a whole.

The genus Lacinipolia is of recent origin, having been described by McDunnough in 1937b. His Checklist of 1938 placed 46 species in this genus, with a number of others as subspecies, synonyms or forms. This revision recognizes 54 species, of which 9 are new, and 50 synonyms.

The primary purpose of this revision is to enable taxonomists to identify specimens with a greater degree of certainty. While it is to be hoped that other uses may be made of this revision, it must be stressed that proper identification must precede all further work on the species of this genus. Much work is needed, especially on subspeciation; however, the complexity of the group did not permit it at this time.

SOURCES OF MATERIAL EXAMINED

The following is a list of institutions and individuals from whom material was borrowed. However, by far, the majority of specimens studied were generously supplied by the Los Angeles County Museum of Natural History. Abbreviations used throughout this revision are as follows:

AMNH.....American Museum of Natural History, New York.

BKMC.....Bryant and Katherine Mather Collection,
Mississippi.

CLSC.....Charles L. Selman Collection.

CMIC.....Carnegie Museum Insect Collection, Pennsylvania.

CNCI.....Canadian National Collection of Insects, Ottawa.

FMNH.....Field Museum of Natural History, Chicago.

LACM.....Los Angeles County Museum of Natural History.

MSUC.....Michigan State University Collection, East
Lansing.

OSUC.....Ohio State University Collection of Insects and
Spiders.

USNM.....United States National Museum, Washington, D.C.

METHODS AND MATERIALS

TECHNIQUES

Preparatory to examining the genitalia, the abdomen was separated from the thorax and macerated in cold 10 percent potassium hydroxide (KOH) solution overnight or warmed to about 180°F. for about 20 minutes, then dissected in fresh distilled water. Dissection of the male genitalia is initiated by holding abdomen with forceps and brushing caudal end lightly with a camel hair brush on one side and then turning the specimen and brushing the other side. This removes scales and hairs from the genitalia and causes them to extrude from the abdomen. Some genitalia separate from the abdomen without any further help; however, some need a slight incision in the membranous material holding it. Next, while still holding genitalia in the water, the aedaeagus is removed from the valves. The reason for stressing water at this point is that many publications state the use of a 10 percent alcohol solution which I found begins to prematurely harden the structures before they can be dissected. The safest procedure is to pull the aedaeagus gently cephalad. The valves are now spread and stained

by placing them in eosin-Y and alcohol with a glass slide placed in such a way as to hold them open. This permits one to later examine the important diagnostic structures found on their inner faces. Leave valves in this position until adequately hardened and stained.

The vesica of the aedaeagus is now inflated using a lcc disposable tuberculin syringe with a 26G needle. First, a small slit is made at the anterior end of the aedaeagus and a blunt insect pin is inserted. This pin is used to gently shove the vesica toward the caudal end. This pin is removed and replaced by the syringe which is filled with distilled water. A push on the plunger of the syringe will inflate the vesica of the aedaeagus. Remove the syringe and fill with 95 percent alcohol, insert again into the aedaeagus and push plunger slowly so that vesica is held inflated from 30 to 60 seconds. The vesica will now remain in this position so that it may be placed in the eosin-Y and alcohol solution to further harden and stain, after which it may be mounted on a slide or placed in a vial of glycerine.

Female genitalia are handled in a similar manner with the only major difference being that of inflating the bursa copulatrix. To inflate it the syringe is inserted into the ostium (periostium).

ILLUSTRATIONS

Drawings of the genitalia were made with the aid of a projector, a grid in the eyepiece of a binocular microscope, a compound microscope and a tracing board. Where the entire male or female genitalia were to be drawn, they were first projected on white paper and roughly traced. These tracings were then elucidated by further drawing while examining specimens under a binocular microscope. This new, improved drawing was then traced and inked with India ink.

If only parts of the genitalia were to be drawn, a grid in the eyepiece of a binocular microscope was used. A compound microscope was utilized when some part was to be enlarged for better examination and drawing.

TERMS

The terminology used for the markings of the wing is somewhat constant in the literature with only minor changes being found between authors. The terms used throughout this revision are exactly as given and illustrated by Forbes (1954).

On the other hand, the names given various parts of the male and female genitalia are many. For example, the clasper of the male genitalia as described herein has been called the "harpe" (Gosse, 1882) and "cuiller"

(Reverdin, 1910). Likewise, the ampulla as used herein has been called the "style" (Rambur, 1837), "stylifer" (Warren, 1926), and "digitus" (Forbes, 1954) to mention a few.

Because of this inconsistency and the fact that no one author used all of the names exactly as used in this revision, and because of their importance, a definition of structures follows. The various parts of the male and female genitalia are labeled on Figures 12-18.

VALVE

Paired clasping organs that articulate below to the vinculum. In the Lacinipolia (and most Lepidoptera), this pair is symmetrical and most of the important diagnostic structures are the processes on the mesal surface of the valve. See Figure 14.

SACCULUS

The sacculus is a reflexed flange of the sclerotized part of the valve occupying the ventroproximal portion of its mesal surface. The degree of development is subject to considerable variation in the Lacinipolia. See Figure 16.

CLASPER

A process on the mesal surface of the valve attached to a basal sclerite. This process can be quite small

(Fig. 114) or greatly elongated (Fig. 14). See Figure 16.

AMPULLA

A process situated dorsoproximally to the clasper. It is usually not as sclerotized as the clasper and may be well developed (Fig. 53) or absent (Fig. 101). See Figure 16.

CUCULLUS

The distal, often more or less expanded, portion of the valve, bearing a marginal line of spines on its inner face called the "corona" (Fig. 16). In the Lacinipolia the cucullus has many modifications, being rounded (Fig. 96), truncate (Fig. 136), extended to long point (Fig. 61) or finger-like (Fig. 128). See Figure 16.

MEMBRANOUS FLAP

A flap-like process attached along the basal sclerite holding the clasper. Always clothed with long hairs (denuded on some drawings). Modified largely only by size. See Figure 16.

AEDAEAGUS

The aedaeagus is herein defined and limited to the rod-like, sclerotized structure protruding from between the valves. To its posterior end (apex of aedaeagus) is the membranous sac, the "vesica," which is usually hidden

within the aedaeagus proper. Also, two major processes can be found at its distal end, the "rostellum," a somewhat long free process and the "carina," a ridge. On the vesica are usually found spines called the "cornuti." See Figures 13 and 15.

PERIOSTIUM

The periostium has been the primary female genitalic character utilized throughout this paper and it is here defined as the sclerotized region around the ostium at the caudal end of the "ductus bursae." It was found to have many modifications in the Lacinipolia, as well as being sometimes absent. See Figures 17 and 18.

GENUS LACINIPOLIA McDUNNOUGH

Lacinipolia McDunnough, 1937a. Can. Ent., p.43.

Type species: Mamestra illaudabilis Grote now
synonomized under Lacinipolia strigicollis (Wallengren)

DESCRIPTION

Vestiture of head and thorax somewhat smoothly scaled, with small spreading crests of varied visibility, on pro- and metathorax. Abdomen with longish hairs at base and small dorsal crests, which may be well developed, on basal segments. Front smooth; eyes hairy (Figs. 1-2); legs unspined (Figs. 3-5); and antennae variable (Figs. 6-11).

Male genitalia usually with a rather narrow clasper, sometimes gently bulging ventrally in median section, and quite long in some species. Cucullus battledore shaped with distinct neck and with ventroapical end frequently drawn out to a point. A large hairy membranous flap is attached to the ventral edge of clasper in the median section, and from approximately the point of attachment to the base of the neck the ventral edge is thickly clothed with short, dark hair. Clasper variable in shape, typically rod-like, tapering apically and projected

toward dorsal margin; from underneath its base arises the ampulla which is frequently strong and projects over ventral margin near base of neck. Uncus simple; tegumen typically narrow, without lateral projections near base.

DISCUSSION

The species herein grouped into the genus Lacinipolia can nearly always be separated from other Noctuidae by the presence of a hairy membranous flap, the hairy eyes, hind wing with trifold venation, and the unspined hind legs. However, at least two other genera of hairy eyed noctuids have species with the membranous flap; i.e., Lasionycta Aurivillius and Lasiestra Hampson. McDunnough (1937b) stated that it is not improbable that Lasiestra and Lasionycta may one day be united as the type of their genitalia are quite similar; however, for the present these two genera remain separate on characters of vestiture.

Lasiestra can be separated from Lacinipolia and Lasionycta because of its long wooly hair on the thorax and palpi. The distinct neck to the cucullus of Lacinipolia will then separate it from Lasionycta.

CATALOG OF LACINIPOLIA McDUNNOUGH IN AMERICA
NORTH OF MEXICO

LACINIPOLIA McDunnough, 1937b.

Lacinipolia anguina (Grote), 1881.

Mamestra anguina Grote, 1881.

Mamestra larissa Smith, 1895.

Lacinipolia incurva (Smith), 1887.

Mamestra incurva Smith, 1887.

Lacinipolia longiclava (Smith), 1891a.

Mamestra longiclava Smith, 1891a.

Lacinipolia leucogramma (Grote), 1873a.

Mamestra (Dianthoecia?) leucogramma Grote, 1873a.

Polia canities Hampson, 1905.

Scotogramma francisca Smith, 1910a.

Lacinipolia umbrosa (Smith), 1887.

Scotogramma umbrosa Smith, 1887.

Mamestra intentata Smith, 1898.

Lacinipolia uliginosa (Smith), 1905a.

Mamestra uliginosa Smith, 1905a.

Polia (Mamestra) bicolor Barnes and McDunnough, 1913.

Lacinipolia palilis (Harvey), 1875.

Dianthoecia palilis Harvey, 1875.

Lacinipolia vittula (Grote), 1882b.

Mamestra vittula Grote, 1882b.

Lacinipolia stenotis (Hampson), 1905.

Polia stenotis Hampson, 1905.

Lacinipolia lustralis (Grote), 1875a.

Dianthoecia lustralis Grote, 1875a.

Taeniocampa suffusa Smith, 1887.

Mamestra cervina Smith, 1898.

Lacinipolia meditata (Grote), 1873a.

Dianthoecia meditata Grote, 1873a.

Mamestra brachiolum Harvey, 1876.

Taeniocampa columbia Smith, 1887.

Mamestra determinata Smith, 1891b.

Mamestra selama Strecker, 1898.

Lacinipolia gnata (Grote), 1882c.

Mamestra gnata Grote, 1882c.

Lacinipolia agnata (Smith), 1905a.

Mamestra agnata Smith, 1905a.

Lacinipolia prognata McDunnough, 1940.

Lacinipolia delongi, new species

Lacinipolia naevia (Smith), 1898.

Mamestra naevia Smith, 1898.

Mamestra griseata Smith, 1900.

Lacinipolia lepidula (Smith), 1887.

Mamestra lepidula Smith, 1887.

Polia rubrifusa Hampson, 1905.

Lacinipolia luteimacula (Barnes and Benjamin), 1925.

Polia luteimacula Barnes and Benjamin, 1925.

Lacinipolia teligera (Morrison), 1874b.

Mamestra teligera Morrison, 1874b.

Mamestra imbuna Smith, 1905.

Lacinipolia pensilis (Grote), 1874a.

Diathoecia pensilis Grote, 1874a.

Mamestra doira Strecker, 1898.

Mamestra ascula Smith, 1905b.

Lacinipolia aileenae, new species

Lacinipolia vicina (Grote), 1874b.

Mamestra vicina Grote, 1874b.

Mamestra sareta Smith, 1906.

Lacinipolia acutipennis (Grote), 1880.

Mamestra acutipennis Grote, 1880.

Lacinipolia erecta (Walker), 1857.

Celaena erecta Walker, 1857.

Perigea constipata Walker, 1857.

Perigrapha innexa Grote, 1875b.

Lacinipolia triplehorni new species

Lacinipolia cuneata (Grote), 1873a.

Mamestra cuneata Grote, 1873a.

Mamestra gertana Smith, 1913.

Polia basirufa Strand, 1916.

Polia rubicunda Strand, 1916.

Lacinipolia patalis (Grote), 1873b.

Xylomiges patalis Grote, 1873b.

Xylomiges fletcheri Grote, 1888.

Lacinipolia sharonae new species

Lacinipolia bucketti new species

Lacinipolia baueri new species

Lacinipolia olivacea (Morrison), 1874a.

Mamestra olivacea Morrison, 1874a.

Mamestra obscurior Smith, 1887.

Mamestra vau-media Smith, 1887.

Mamestra altua Smith, 1901.

Mamestra lucina Smith, 1901.

Mamestra megarena Smith, 1901.

Mamestra obnigra Smith, 1901.

Mamestra petita Smith, 1901.

Lacinipolia comis (Grote), 1877.

Mamestra comis Grote, 1877.

Mamestra lunolacta Smith, 1903.

Lacinipolia rectilinea (Smith), 1887.

Lacinipolia davena (Smith), 1901.

Mamestra davena Smith, 1901.

Lacinipolia lorea (Guenee), 1852a

Hydroecia lorea Guenee, 1852a

Hydroecia ligata Walker, 1860.

Mamestra dodgei Morrison, 1875.

Lacinipolia basiplaga (Smith), 1905a.

Mamestra basiplaga Smith, 1905a.

Lacinipolia laudabilis (Guenee), 1852b

Hecatera laudabilis Guenee, 1852b

Hepalia indicans Walker, 1857.

Polia mediosuffusa Strand, 1916.

Polia rufoirrorata Strand, 1916.

Lacinipolia consimilis McDunnough, 1937a.

Lacinipolia runica (Hampson), 1918.

Miselia runica Hampson, 1918.

Lacinipolia viridifera McDunnough, 1937a.

Lacinipolia implicata McDunnough, 1937a.

Lacinipolia explicata McDunnough, 1937a.

Lacinipolia quadrilineata (Grote), 1873a.

Mamestra (Dianthoecia?) 4-lineata Grote, 1873a.

Polia cinereovirides Strand, 1916.

Lacinipolia martini new species

Lacinipolia tricornuta McDunnough, 1937a.

Lacinipolia strigicollis (Wallengrén), 1860.

Hectara strigicollis Wallengrén, 1860.

Mamestra illaudabilis Grote, 1875c.

Mamestra alboguttata Smith, 1877.

Mamestra restora Smith, 1910b.

"Polia" buscki Barnes and Benjamin, 1927.

Lacinipolia dilatata (Smith), 1900.

Mamestra dilatata Smith, 1900.

Lacinipolia marinitincta (Harvey), 1875.

Mamestra marinitincta Harvey, 1875.

Lacinipolia appendicula McDunnough, 1937a.

Lacinipolia spiculosa (Grote), 1883.

Mamestra spiculosa Grote, 1883.

Lacinipolia renigera (Stephens), 1829.

Celaena renigera Stephens, 1829.

Celaena herbimacula Guenee, 1852.

Celaena infecta Walker, 1856.

Lacinipolia stricta (Walker), 1865.

Hadena? stricta Walker, 1865.

Mamestra cinnabarina Grote, 1874.

Mamestra ferrea Grote, 1881.

Mamestra circumcincta Smith, 1891b.

Mamestra tennisca Smith, 1910.

Polia kappa (papka) Barnes and Benjamin, 1925.

Lacinipolia rodora (Dyar), 1911.

Polia rodora Dyar, 1911.

Lacinipolia fordii new species

Lacinipolia franclemonti new species

(Based largely on superficial characters)

- 19

- 4'. Fore wing variable, but not as above.....6
- 5 (4). Hind wing largely fuscous, fading toward
base; wingspread under 28 mm; antennae
only appear slightly serrate.....
.....leucogramma (Grote)
- 5'. Hind wing cream with only veins and outer
margin slightly darker; wingspread over
28 mm; antennae distinctly serrate....
.....delongi n. sp.
- 6 (4'). Hind wing white, with grayish veins and
outer margin fading toward base; fore
wing with contrasting white spot in outer
angle.....gnata (Grote)
- 6'. Hind wing fuscous, only slightly lighter
toward base; fore wing with or without
spot, but not nearly as contrasting...
.....7
- 7 (6'). Claviform distinct and nearly solid black;
subterminal line indicated by scattered
white scales and white patch in outer
angle....luteimacula (Barnes and Benjamin)

- 7'. Claviform at most outlined with
black and pale filled; subterm-
inal line usually traceable with
pale scales.....8
- 8 (7'). Orbicular oval; wingspread under
30 mm.....agnata (Smith)
- 8'. Orbicular oblong and oblique; wing-
spread variable.....9
- 9 (8'). Fore wing wide at outer margin; sub-
terminal line marked by pale scales;
wingspread usually over 30 mm.....
.....lustralis (Grote)
- 9'. Fore wing typical along outer margin;
subterminal line marked by pale
scales with dark wedges along
inner side; wingspread usually
under 30 mm.....neavia (Smith)
- 10 (1"). Males only (this is easily ascer-
tained by simply removing a few
scales from caudal end of moth11
- 10'. Females only.....59

- 11 (10). Male valve with cucullus extended to
a long point on outer side (Fig. 25);
can be seen without dissecting
genitalia by removing a few scales
from caudal end of moth.....12
- 11'. Cucullus rounded at apex, or if pointed
then not projecting as spine-like
process (Fig. 118), or long point
projecting laterally (Fig. 153).....17
- 12 (11). Front, vertex, collar and thorax light
tan to almost white, with sprinkling
of few brownish scales...palilis (Harvey)
- 12'. Front, vertex, collar and thorax dark
grayish or brown, or with sprinkling
of many dark scales.....13
- 13 (12'). Discal spot on underside of hind wing
distinct and hind wing above almost
immaculate; ordinary lines of fore
wing blurred.....uliginosa (Smith)
- 13'. Discal spot on underside of hind wing
faint or absent, or hind wing mostly
smokey; or ordinary lines of fore
wing sharp.....14

- 14 (13'). Hind wing nearly immaculate; however,
 some sordid scales along outer
 marginal edge and veins.....15
- 14'. Hind wing with sordid scales over
 most of it.....16
- 15 (14). Fore wing largely luteous gray.....
 leucogramma (Grote)
- 15'. Fore wing largely fuscous gray.....
 umbrosa (Smith)
- 16 (14'). Apex of cucullus and clasper as in
 Figures 47-53.....vittula (Grote)
- 16'. Apex of cucullus and clasper as in
 Figures 55-61.....stenotis (Hampson)
- 17 (11'). Clasper elongated, stout and extending
 to near apex of cucullus; cucullus
 rounded apically; can be seen without
 dissecting genitalia by removing a
 few scales from caudal end of moth
 (Figs. 19-23, 161-162).....18
- 17'. Clasper not elongated and usually not
 visible without dissection; or if
 clasper long, then cucullus not rounded
 apically.....22

- 18 (17). Wingspread near 22 mm; claviform long,
 discolorous, and extending from base
 of wing to postmedial line.....
 longiclava (Smith)
- 18'. Wingspread nearly always larger than
 22 mm; claviform short, extending
 from antemedial to postmedial line
 or less.....19
- 19 (18'). Cucullus with neck much narrower than
 expanded apical portion
 (Figs. 161-162).....20
- 19'. Cucullus with neck near same width as
 apical portion (Figs. 20-21).....21
- 20 (19). Fore wing having reddish-brown over
 most of subterminal area.....
 franclemonti n. sp.
- 20'. Fore wing with very little if any
 reddish-brown in subterminal area.....
 fordi n. sp.
- 21 (19'). Tip of clasper appears to be blunt and
 rounded with small claw-like process
 attached, and usually not curved
 much its length (Figs. 21-24).....
 incurva (Smith)

- 21'. Tip of clasper not blunt, but tapering
to point and usually curved its
length (Fig. 19-20).....anguina (Grote)
- 22 (17'). Cucullus small and finger-like (visible
without dissection) and with cluster
of spines rather than corona at apex
(Fig. 128-129).....consimilis McDunnough
- 22'. Cucullus not as above.....23
- 23 (22'). Fore wing largely reddish-brown.....24
- 23'. Fore wing green, gray, blackish or
combination, and with at most a small
amount of brownish overlay.....27
- 24 (23). Reniform distinct, with contrasting
white outline.....stricta (Walker)
- 24'. Reniform obscure or with pale outline....
.....25
- 25 (24'). Postmedial line indicated by a difference
in median shade only.....baueri n. sp.
- 25'. Postmedial line distinct and marked
by discolorous scales.....26
- 26 (25'). Postmedial line geminate, and reniform
and orbicular distinct.....
.....spiculosa (Grote)

- 26'. Postmedial line simple or if geminate
then outer line obscure, and
reniform and orbicular barely
traceable.....lorea (Guenee)
- 27 (23'). Fore wing purplish-brown; reniform
green filled; green bar extending
from near base to black claviform,
and green patch near outer angle.....
.....renigera (Stephens)
- 27'. Without the above combination of
characters.....28
- 28 (27'). Hind wing immaculate, at most with a few
pale scales along outer margin but
not at anal angle.....29
- 28'. Hing wing smokey, fuscous or at least
with dark scales along outer margin
to anal angle.....38
- 29 (28). Vertex whitish or cream and without
any sprinkling of dark scales
(may have slight greenish tinge).....
.....30
- 29'. Vertex with at least some dark
scales intermixed.....34

- 30 (29). Fore wing with greenish overlay.....31
- 30'. Fore wing without greenish overlay.....33
- 31 (30). Reniform obscure.....triplehorni n. sp.
- 31'. Reniform distinct.....32
- 32 (31'). Reniform completely open to costal
margin.....viridifera McDunnough
- 32'. Reniform with at least part of top
black edge.....strigicollis (Wallengren)
- 33 (30'). Reniform broadest at top, and open to
costal margin.....tricornuta McDunnough
- 33'. Reniform near same width at top as
bottom, and usually with black
margin along its costal or top
edge.....strigicollis (Wallengren)
- 34 (29'). Fore wing with greenish overlay.....
.....dilatata (Smith)
- 34'. Fore wing without distinct greenish
overlay.....35
- 35 (34') Median area contrastingly darker than
basal and outer third of wing.....
.....tricornuta McDunnough

- 35'. Median area near same shade
as basal and outer third of wing.....36
.....
- 36 (35'). Anal dash weak or absent.....
.....dilitata (Smith)
- 36'. Strong anal dash.....37
- 37 (36'). Base of vesica with one diverticulum
and spine at tip of aedaeagus only
slightly longer than aedaeagus is
wide (Fig. 138).....martini n. sp.
- 37'. Base of vesica with two diverticula
and spine at tip of aedaeagus twice
as long as aedaeagus is wide
(Fig. 139).....quadrilineata (Grote)
- 38 (28') Median area contrastingly darker than
outer third of wing.....39
- 38'. Median area near same shade or only
slightly darker than outer third of
wing.....49
- 39 (38'). Fore wing overlaid with green scales,
reniform greenish filled and dark
median area absent at inner margin....
.....laudabilis (Guenee)

- 39'. Fore wing not overlaid with green
scales, or reniform not greenish
filled and darkness of median
area extends down to inner
margin.....40
- 40 (39'). Reniform with black outline on wing-
base side and whitish outline on
outer marginal side, and basal
area same shade as median area.....
.....basiplaga (Smith)
- 40'. Not with the above combination of
characters.....41
- 41 (40'). Postmedial line deeply scalloped or
toothed on veins.....42
- 41'. Postmedial line weakly toothed on
veins, and sinuate or nearly
straight its length.....43
- 42 (41). Clasper narrowed distally over half its
length (Fig. 132).....
.....implicata McDunnough
- 42'. Clasper narrowed distally less than
half its length (Fig. 150).....
.....marinitincta (Harvey)

- 43 (41'). Forewing overlaid with brownish
scales, and postmedial line nearly
straight its length.....
.....rectilinea (Smith)
- 43'. Not as above.....44
- 44 (43'). Dark bar above outer angle, contrasting
against whitish outer third of
wing.....explicata McDunnough
- 44'. No distinct dark bar.....45
- 45 (44'). Slight greenish patch near outer angle,
contrasting against gray back-
ground.....comis (Grote)
- 45'. No contrasting patch near outer angle
or patch is not greenish.....46
- 46 (45'). Brown patch near outer angle or
cucullus somewhat truncate apically
and not much wider than neck (Fig. 114)
.....davena (Smith)
- 46'. No contrasting brown patch and cucullus
expanded apically and much wider
than neck (Figs. 108, 118, 120).....47

- 47 (46'). Antemedial line not strongly
curved on lower half.....
.....olivacea (Morrison)
- 47'. Antemedial line strongly curved
on lower half.....48
- 48 (47') Reniform with dark outline and silvery
filled.....bucketti n. sp.
- 48'. Reniform with white followed by
dark outline.....sharonae n. sp.
- 49 (38'). Postmedial line nearly straight and
not toothed on veins, and marked
by a single pale line.....
.....erecta (Walker)
- 49'. Postmedial line not straight and
usually toothed on veins; also
usually geminate and marked by
dark scales.....50
- 50 (49'). Distinct reddish-brown patch overlaid
on claviform.....51
- 50'. No distinct brown patch.....52
- 51 (50). Claviform black outlined and brownish
filled.....pensilis (Grote)

- 51'. Claviform almost entirely black.....
.....vicina (Grote)
- 52 (50'). Claviform long, extending from
antemedial line to postmedial
line.....53
- 52'. Claviform short, absent or indistinct,
and not extending to postmedial
line.....55
- 53 (52). Fore wing with large black patch above
outer angle.....aileenae n. sp.
- 53'. Fore wing without contrasting black
patch near outer angle.....54
- 54 (53'). Juxta large; clasper sinuate (Fig. 87)...
.....acutipennis (Grote)
- 54'. Juxta small; clasper somewhat in the
shape of "U" (Fig. 80).....
.....teligera (Morrison)
- 55 (52'). Fore wing with dark markings contrasting
against a whitish background.....
.....runica (Hampson)
- 55'. Markings not contrasting, or if
slightly contrasting then against
a grayish background.....56

- 56 (55'). Basal dash absent or indistinct.....
prognata McDunnough
- 56'. Basal dash black and distinct.....57
- 57 (56'). Vertex, collar and thorax nearly
 uniform in color and almost no
 trace of transverse band on collar....
patalis (Grote)
- 57'. Not as above.....58
- 58 (57'). Transverse band on collar black and
 distinct, and followed by a
 contrastingly light area.....
cuneata (Grote)
- 58'. Transverse band traceable but
 fading and not followed by
 contrastingly light area.....
marinitincta (Harvey)
- 59 (10'). Fore wing purplish-brown; reniform green
 filled; green bar extending from near
 base to black claviform, and green
 patch near outer angle.....
renigera (Stephens)
- 59'. Without above combination of
 characters.....60

- 60 (59'). Postmedial line absent, at least not traceable because near same shade as surrounding area; ordinary spots not contrasting; hind wing near same shade of fore wing.....61
- 60'. Postmedial line distinct, at least part is darker or lighter than surrounding area; or ordinary spot contrasting; hind wing variable.....63
- 61 (60). Reniform and orbicular outlined with narrow row of black scales.....
.....patalis (Grote)
- 61'. Reniform and orbicular not outlined with black scales.....62
- 62 (61'). Fore wing reddish-brown.....meditata (Grote)
- 62'. Fore wing dull luteous gray or whitish.....74
- 63 (60'). Lower edge (cubitus vein) of discal cell and origin of M_3 , Cu_1 and Cu_2 contrastingly marked with pale to whitish scales.....spiculosa (Grote)

- 63'. Not as above.....64
- 64 (63'). Fore wing ground reddish or
yellowish brown.....65
- 64'. Fore wing ground not as above;
may have some brown overlay on
grayish ground.....69
- 65 (64). Reniform not contrasting with
surrounding area and without
white outline.....66
- 65'. Reniform contrasting and with at
least part of white outline.....67
- 66 (65). Reniform with pale outline; median
area same shade as outer third of
wing.....triplehorni n. sp.
- 66'. Reniform obscure and without pale
outline; median area slightly
darker than outer third of wing.....
.....lorea (Guenee)
- 67 (65'). Fore wing with deep reddish brown
overlay; wingspread over 27 mm.....
.....lepidula (Smith)
- 67'. Fore wing not as above; wingspread
under 27 mm.....68

- 68 (67'). Claviform outlined with dark brown
scales.....baueri n. sp.
- 68'. Claviform obscure.....stricta (Walker)
- 69 (64'). Reniform with bottom extended and
connected to orbicular.....
.....patalis (Grote)
- 69'. Reniform and orbicular not
connected.....70
- 70 (69'). Distinct black patch above outer
angle and extending to postmedial
line.....71
- 70'. No black patch or it does not
extend to postmedial line.....76
- 71 (70). Wingspread distinctly over 30 mm.....
.....aileenae n. sp.
- 71'. Wingspread distinctly under 30 mm.....72
- 72 (71'). Hind wing largely smokey.....
.....explicata McDunnough
- 72'. Hind wing largely white.....73
- 73 (72'). Median area distinctly darker than
outer and inner third of wing.....
.....quadrilineata (Grote)

- 73'. Median area near same shade as outer
and inner third of wing.....
.....*martini* n. sp.
- 74 (62'). Hind wing immaculate.....*palilis* (Harvey)
- 74'. Hind wing sordid.....75
- 75 (74'). Orbicular round.....*leucogramma* (Grote)
- 75'. Orbicular oblong and oblique.....
.....*longiclava* (Smith)
- 76 (70'). Postmedial line not distinctly curving
under reniform and more straight
than sinuate its length.....77
- 76'. Postmedial line curving under reniform
and sinuate its length.....85
- 77 (76). Postmedial line diffuse and barely
traceable.....78
- 77'. Postmedial line distinct.....80
- 78 (77). Reniform and orbicular nearly con-
colorous with surrounding area, and
no black outline around them.....
.....*leucogramma* (Grote)
- 78'. Reniform and orbicular lighter than
surrounding area and with blackish
outlines.....79

- 79 (78'). Postmedial line deeply toothed on
veins especially out from reni-
form.....prognata McDunnough
- 79'. Postmedial line not deeply toothed on
veins...luteimacula (Barnes and Benjamin)
- 80 (77'). Fore wing with ordinary markings
indicated by pale lines...erecta (Walker)
- 80'. Not as above.....81
- 81 (80'). Wingspread distinctly over 32 mm.....
.....gnata (Grote)
- 81'. Wingspread distinctly under 32 mm.....82
- 82 (81'). Brownish, greenish or whitish con-
trasting patch on postmedial line
at outer angle of wing.....83
- 82'. No contrasting patch.....rodora (Dyar)
- 83 (82). Reddish-brown patch on lower part of
postmedial line.....rectilinea (Smith)
- 83'. Patch not reddish-brown.....84
- 84 (83'). Postmedial line toothed on veins.....
.....comis (Grote)

- 84'. Postmedial line not toothed or
only very slightly.....stricta (Smith)
- 85 (76'). Fore wing largely shaded with pale
green.....86
- 85'. Fore wing otherwise.....90
- 86 (85). Fore wing with inner third darker than
outer third.....87
- 86'. Fore wing with inner and outer thirds
light and median area contrastingly
darker.....88
- 87 (86). Black patch near outer angle.....
.....explicata McDunnough
- 87'. Light or no patch near outer angle.....
.....olivacea (Morrison)
- 88 (86'). Claviform solid black, or filling may
consist of single row of greenish
scales; postmedial line touching
bottom corner of reniform.....
.....viridifera McDunnough
- 88'. Claviform with black outline only and
paler filling that is concolorous
with median area, or postmedial
line is not touching bottom corner
of reniform.....89

- 89 (88'). Hind wing largely white.....
laudabilis (Guenee)
- 89'. Hind wing largely dark fuscous.....
implicata McDunnough
- 90 (85'). Median area contrastingly darker
 than inner and outer third of
 wing.....91
- 90'. Median area concolorous with inner and
 outer third or at least not
 contrastingly darker than inner
 third.....95
- 91 (90). Wingspread distinctly over 30 mm.....
cuneata (Grote)
- 91'. Wingspread distinctly under 30 mm.....92
- 92 (91'). Postmedial line wavy but not toothed
 on veins.....consimilis McDunnough
- 92'. Postmedial line toothed on veins.....93
- 93 (92'). Fore wing with markings dull to some-
 what contrasting on a sordid
 ground.....marinitincta (Harvey)
- 93'. Markings contrasting on whitish ground...
94

- 94 (93'). Subterminal area largely cream to
whitish with scattering of black
scales, especially near outer
angle.....strigicollis (Wallengren)
- 94'. Subterminal area with many black and
brownish scales.....
.....tricornuta McDunnough
- 95 (90'). Claviform long, extending from ante-
medial to postmedial lines.....96
- 95'. Claviform not extending to postmedial
line, or absent.....101
- 96 (95). Orbicular oblong and oblique.....97
- 96'. Orbicular oval or nearly so.....99
- 97 (96). Fore wing with ground luteous gray;
orbicular with black outline, and
silvery filling.....delongi n. sp.
- 97'. Fore wing with ground fuscous gray;
orbicular with gray followed by
black outline and filling somewhat
concolorous with surrounding area.....98
- 98 (97'). Periostrum large, rough edged, and
broadly rounded on top (Fig. 177).....
.....acutipennis (Grote)

- 98'. Periostium moderate, smooth edged
and slightly pointed on top
(Fig. 178).....vicina (Grote)
- 99 (96'). Vertex cream to white.....
.....marinitincta (Harvey)
- 99'. Vertex not as above and usually with
many grayish scales.....100
- 100 (99'). Fore wing with width of area between
antemedial and postmedial lines at
shortest distance less than half as
wide as distance at widest point;
wingspread 27 mm or less.....
.....stenotis (Hampson)
- 100'. Fore wing with width of area between
antemedial and postmedial lines at
shortest distance more than half as
wide as distance at widest point.
Wingspread 25 mm or more.....
.....teligera (Morrison)
- 101 (95'). Postmedial line, at least from bottom
of reniform to inner margin, black
followed by whitish scales.....102

- 101'. Postmedial line not as above.....110
- 102 (101). Fore wing with inner third darker
than outer third.....103
- 102'. Fore wing with inner third nearly as
light as outer third.....106
- 103 (102). Fore wing with outer third much
lighter than inner third; hind
wing sordid, and only slightly
paler on basal half.....104
- 103'. Fore wing with outer third only
slightly lighter than inner third;
hind wing white and at most sordid
on distal half.....105
- 104 (103). Fore wing with brown patch in lower
portion of subterminal area; only
recorded from western United States...
.....davena (Smith)
- 104'. Fore wing nearly always without brown
patch in subterminal area; recorded
over much of the United States.....
.....olivacea (Morrison)

- 105 (103'). Fore wing having reddish-brown over
 most of subterminal area.....
franclemonti n. sp.
- 105'. Fore wing with very little if any
 reddish-brown in subterminal
 area.....fordi n. sp.
- 106 (102'). Fore wing with median area much darker
 than outer third.....
olivacea (Morrison)
- 106'. Median area not darker or only
 slightly darker than outer third.....107
- 107 (106'). Fore wing with markings very dark and
 contrasting on white ground.....108
- 107'. Markings not highly contrasting.....109
- 108 (107). Orbicular small, less than one-fourth
 size of reniform.....runica (Hampson)
- 108'. Orbicular moderate, nearly half size
 of reniform.....dilatata (Smith)
- 109 (107'). Postmedial line touching bottom corner
 of reniform.....stenotis (Hampson)
- 109'. Postmedial line not touching bottom
 corner of reniform.....
marinitincta (Harvey)

- 110 (101'). Postmedial without tooth on Cu_2 ,
and claviform as large or
larger than orbicular.....111
- 110'. Postmedial with tooth on Cu_2 or not
traceable, and claviform absent
or smaller than orbicular.....118
- 111 (110). Reniform with distinct white outline
followed by single row of black
scales and pale filled.....
.....sharonae n. sp.
- 111'. Without the above combination of
characters.....112
- 112 (111'). Postmedial line widely sinuate and
curving under reniform.....113
- 112'. Postmedial line not curving under entire
reniform or not widely sinuate.....114
- 113 (112). Fore wing with median area usually con-
trastingly darkest.....anguina (Grote)
- 113'. Fore wing with median area usually
concolorous with rest of wing (some
specimens of anguina and incurva
indistinguishable).....incurva (Smith)

- 114 (112'). Wingspread distinctly over 30 mm.....
cuneata (Grote)
- 114'. Wingspread distinctly under
 30 mm.....115
- 115 (114') Ground silvery.....116
- 115'. Ground largely gray or sordid but
 not silvery.....117
- 116 (115). Fore wing with markings distinct and
 indicated by black scales.....
bucketti n. sp.
- 116'. Markings diffuse and few with any
 black scales.....
strigicollis (Wallengren)
- 117 (115'). Fore wing with outer third much lighter
 than median area.....
strigicollis (Wallengren)
- 117'. Fore wing with outer third near same
 shade as median area.....
basiplaga (Smith)
- 118 (110'). Postmedial line broadly sinuate, with
 lower half curving completely under
 reniform, and with small teeth on
 veins; claviform nearly as large
 as orbicular.....119

- 118'. Without above combination of
characters.....120
- 119 (118). Fore wing with median area usually
contrastingly darkest.....anguina (Grote)
- 119'. Fore wing with median area usually
concolorous with rest of wing (some
specimens of anguina and incurva
indistinguishable).....incurva (Smith)
- 120 (118'). Fore wing with ordinary lines indicated
by pale, cream or whitish scales and
almost no black scales.....
.....leucogramma (Grote)
- 120'. Fore wing with ordinary lines indicated
by some blackish scales.....121
- 121 (120'). Postmedial line nearly straight with
small or no teeth on veins; sub-
terminal area largely silvery gray....
.....rodora (Dyar)
- 121'. Postmedial line sinuate, or with large
teeth; subterminal area variable
but usually not silvery gray.....122

- 122 (121'). Neck of ovipositor longer than but
 not twice as long as papilla
 analis (Fig. 166).....pensilis (Grote)
- 122'. Neck of ovipositor is shorter than
 or twice as long as papilla
 analis (Figs. 165, 167, 170, 172).....
123
- 123 (122'). Neck of ovipositor twice as long or
 longer than length of papilla analis..
124
- 123'. Neck of ovipositor not nearly twice
 as long as length of papilla analis...
125
- 124 (123). Appendix bursae large (Fig. 165).....
naevia (Smith)
- 124'. Appendix bursae small (Fig. 167).....
agnata (Smith)
- 125 (123'). Fore wing with anal angle contrastingly
 light to postmedial line, and arch
 of lip of peristomium evenly curved
 (Fig. 172).....vittula (Grote)

125'.

Fore wing with anal angle concolorous
with surrounding area, and arch of
lip of periostium somewhat flat
along top edge (Fig. 170).....
.....umbrosa (Smith)

KEY TO SPECIES OF LACINIPOLIA McDUNNOUGH IN
AMERICA NORTH OF MEXICO

(Based largely on genitalia)

1.	Males.....	2
1'.	Females.....	55
2 (1).	Cucullus rounded apically (Fig. 16).....	3
2'.	Cucullus extended to point on lateral (Fig. 153) or dorsal side (Fig. 25), or somewhat truncate apically (Fig. 136).....	43
3 (2).	Cucullus with apex near same width as neck (Fig. 14).....	4
3'.	Cucullus much wider than neck (Fig. 87)..	16
4 (3).	Clasper elongate, stout and extending to apex of cucullus (Fig. 12).....	5
4'.	Clasper not greatly elongate (Fig. 16)...	7

- 5 (4). Wingspread near 22 mm; claviform
 long, discolorous, and extending
 from base of wing to postmedial
 line.....longiclava (Smith)
- 5'. Wingspread nearly always larger
 than 22 mm; claviform short,
 extending from antemedial to post-
 medial line or less.....6
- 6 (5'). Tip of clasper appears to be rounded,
 with small claw-like process attached
 and usually not curved much its
 length (Figs. 21-24).....incurva (Smith)
- 6'. Tip of clasper not blunt tapering to
 point and usually curved its length
 (Figs. 19-20).....anguina (Grote)
- 7 (4'). Cucullus finger-like, with cluster of
 spines at apex (Fig. 129); antennae
 simple (Fig. 8).....consimilis McDunnough
- 7'. Cucullus not finger-like, and with
 corona; antennae serrate (except
 prognata) (Figs. 6-7).....8

- 8 (7'). Hind wing largely reddish-brown; wing-
spread usually over 30 mm.....9
- 8'. Hind wing largely grayish; wingspread
usually over 30 mm.....10
- 9 (8). Hind wing same shade of reddish-brown
as fore wing.....meditata (Grote)
- 9'. Hind wing much lighter shade, especially
toward base than fore wing.....
.....lepidula (Smith)
- 10 (8'). Fore wing dull luteous gray and macul-
ation largely obscure; aedaeagus
with rostellum (Fig. 15) tapering and
extending to point.....11
- 10'. Without above combination of characters...12
- 11 (10). Antennae serrate (Figs. 6-7).....
.....delongi n. sp.
- 11'. Antennae simple (Fig. 8).....
.....prognata McDunnough
- 12 (10'). Aedaeagus without carina (Fig. 78; top
corner edge of sacculus nodulate (Fig.
77); and large ampulla, robust at base
and tapered on one side (Fig. 76).....
.....luteimacula (Barnes and Benjamin)

- 12'. Without above combination of
characters.....13
- 13 (12'). Ampulla somewhat flap-like (Fig. 65)
and aedaeagus with thorn-like process
below apex (Fig. 66).....gnata (Grote)
- 13'. Ampulla broad at base, tapering on one
side to finger-like process; and
aedaeagus with carina at apex
(Fig. 72).....14
- 14 (13'). Aedaeagus with large, rounded carina
(Fig. 70).....naevia (Smith)
- 14'. Aedaeagus with carina tapered to
point (Figs. 64-72).....15
- 15 (14'). Rostellum on vesica above apex of
aedaeagus; with process rounded at
tip (Fig. 71).....agnata (Smith)
- 15'. Rostellum attached to apex of aedaeagus;
clasper tapering to point (Fig. 63)...
.....lustralis (Grote)
- 16 (3'). Vinculum short; aedaeagus simple, with-
out carina or rostellum (Fig. 103).....17
- 16'. Vinculum medium to long; aedaeagus
usually with carina or rostellum
(Fig. 83).....30

- 17 (16). Clasper nearly absent (Fig. 124) or
 weak and bulbous (Fig. 122).....18
- 17'. Clasper strong (Fig. 130).....19
- 18 (17). Clasper weak and bulbous with many small
 spines (visible at 400X); neck of
 valve about half as wide as cucullus
 (Fig. 122).....lorea (Guenee)
- 18'. Clasper absent; neck of valve const-
 ricted to one-fourth as wide as
 cucullus (Fig. 124).....
 basiplaga (Smith)
- 19 (17'). Cucullus short and small; clasper long
 and tapered (Figs. 130, 133).....20
- 19'. Cucullus large and usually greatly
 expanded apically; clasper variable
 (Fig. 121).....21
- 20 (19). Membranous flap, much thicker on one
 side (Fig. 130); hind wing smokey,
 faded toward base.....runica (Hampson)
- 20'. Membranous flap typical (Fig. 133);
 hind wing immaculate.....
 viridifera McDunnough

- 21 (19'). Vesica with one to seven small
cornuti near base (Fig. 115).....22
- 21'. Vesica without cornuti near base.....27
- 22 (21). Fore wing largely reddish-brown.....
.....baueri n. sp.
- 22'. Fore wing green, gray, blackish or
combination, and with at most a
small amount of brownish overlay.....23
- 23 (22'). Fore wing with brownish overlay; post-
medial line nearly straight its
entire length.....rectilinea (Smith)
- 23'. Not as above.....24
- 24 (23'). Fore wing usually with slight greenish
patch near outer angle, contrasting
against gray background; clasper long,
narrow and about one-third as wide
at its base as membranous flap is
wide at base (Figs. 112-113).....
.....comis (Grote)
- 24'. No contrasting greenish patch near
outer angle; clasper variable.....25

- 25 (24'). Clasper long, extending more than
twice as long as membranous flap
is wide at base, and rounded at apex
(Fig. 118).....sharonae n. sp.
- 25'. Clasper less than twice as long as
membranous flap is wide at base, and
usually tapered to point
(Figs. 108, 120).....26
- 26 (25'). Fore wing with antemedial line strongly
curved on lower half and ground
silvery gray.....bucketti n. sp.
- 26'. Antemedial line variable, but almost
never strongly curved on lower
half and ground never silvery.....
.....olivacea (Morrison)
- 27 (21'). Clasper large, robust; aedaeagus
relatively large compared to right
valve and equipped with stout cornuti
on vesica near base (Figs. 96-97).....
.....triplehorni n. sp.
- 27'. Clasper long but not robust; aedaeagus
normal size and without stout
cornuti near base.....28

- 28 (27'). Clasper broad at base and tapered
distad (Fig. 94); sacculus without
many small spines as found in Figure
99 (visible at 440X).....
.....erecta (Walker)
- 28'. Clasper uniformly narrow its length;
and sacculus with upper corner covered
with many small spines as in Figure 99
(visible at 440X).....29
- 29 (28'). Clasper nearly straight and tapered to
point (Fig. 101).....patalis (Grote)
- 29'. Clasper broadly curved and rounded at
apex (Fig. 98).....cuneata (Grote)
- 30 (16'). Clasper elongate, sinuate and extending
to near apex of cucullus (Figs. 159,
161-162).....31
- 30'. Clasper not greatly elongate.....32
- 31 (30). Clasper with basal third much thicker
than apical third (Figs. 159, 161)....
.....fordi n. sp.
- 31'. Clasper tapering gradually, and basal
third only slightly thicker than
apical third (Fig. 162).....
.....franclemonti n. sp.

- 32 (30'). Cucullus large; juxta usually large
(Fig. 87).....33
- 32'. Cucullus and juxta small (Fig. 126).....37
- 33 (32'). Juxta large and "U" shaped.....34
- 33'. Juxta not as above.....35
- 34 (33). Clasper sinuate; aedaeagus with prominent
bulge below spur-like process (Figs.
87-88).....acutipennis (Grote)
- 34'. Clasper not sinuate and aedaeagus not
noticeably bulging below spur-like
process (Figs. 89-93).....vicina (Grote)
- 35 (33'). Juxta without heavy spines; clasper
long and uniformly tapered (Fig. 79)..
.....aileenae n. sp.
- 35'. Juxta with heavy spines and clasper
not uniformly tapered (Figs. 80-81)....36
- 36 (35'). Clasper with apex narrowly tapered;
aedaeagus with several spine-like
processes near tip (Figs. 81-86).....
.....pensilis (Grote)

- 36'. Clasper with apex broad and somewhat truncate; aedaeagus with single thorn-like process near tip (Fig. 80).....teligera (Morrison)
- 37 (32'). Ampulla large (Fig. 126).....
.....laudabilis (Guenee)
- 37'. Ampulla small or absent.....38
- 38 (37'). One or more rostellum nearly as long as aedaeagus is wide (Figs. 135, 141).....39
- 38'. Rostellum absent or short, no longer than half the width of aedaeagus.....40
- 39 (38). Two or three rostellum present at tip of aedaeagus; hind wing nearly immaculate (Fig. 141).....tricornuta McDunnough
- 39'. One rostellum present, and hind wing smokey, fading toward base (Fig. 135)
.....explicata McDunnough
- 40 (38'). Two prominent rostellum, usually separated by part of membrane of vesica; clasper long and tapering and only slightly broader near base (Fig. 151).....41

- 40'. Usually cluster of small spines at tip of aedaeagus, or if more than one stout spine present, then they are very close together; clasper robust, especially on basal half (Figs. 142-149).....42
- 41 (40). Wingspread near 25 mm; uncus upcurved near apex (Fig. 152).....
.....marinitincta (Harvey)
- 41'. Wingspread 27 mm or more; uncus not upcurved near apex or only slightly (Fig. 132).....implicata McDunnough
- 42 (40'). Ampulla projects only slightly beyond clasper, if at all, and clasper very robust; tip of aedaeagus with one to five spines and at least one is very stout (Figs. 143, 148-149).....
.....dilatata (Smith)
- 42'. Harpe always projects considerably beyond clasper and usually only robust on lower half; tip of aedaeagus always with more than five spines, which are all small (Figs. 142, 144-147).....strigicollis (Wallengren)

- 43 (2'). Cucullus somewhat truncate apically
and not much wider than neck
(Figs. 114, 136).....44
- 43'. Cucullus not as above.....46
- 44 (43). Vesica with one to seven small cornuti
near base (Fig. 115).....davena (Smith)
- 44'. Vesica without small cornuti near base....45
- 45 (44'). Base of vesica with one diverticulum
and rostellum at tip of aedaeagus
only slightly longer than aedaeagus
is wide (Fig. 138).....martini n. sp.
- 45'. Base of vesica with two diverticula
and rostellum twice as long as
aedaeagus is wide (Fig. 139).....
.....quadrilineata (Grote)
- 46 (43'). Cucullus extended to a long point on
dorsal side (Figs. 32-34).....47
- 46'. Cucullus drawn out to point on lateral
side (Fig. 153).....52
- 47 (46). Clasper curved and tapered to point;
ampulla absent (Fig. 25).....
.....leucogramma (Grote)

- 47'. Clasper broad and not tapered to point;
ampulla present (Fig. 45).....48
- 48 (47'). Front, vertex, collar and thorax light
tan to almost white with sprinkling
of few brownish scales.....
.....palilis (Harvey)
- 48'. Front, vertex, collar and thorax dark
grayish or brown, or with sprinkling
of many dark scales.....49
- 49 (48'). Hind wing with discal spot on underside
distinct, and upper side almost
immaculate; ordinary lines of fore
wing appear blurred.....
.....uliginosa (Smith)
- 49'. Discal spot on underside faint or absent
or upperside mostly smokey; or
ordinary lines of fore wing sharp.....50
- 50 (49'). Fore wing dusky and somewhat uniform
throughout, and markings contrasting
only slightly; filling of reniform
and orbicular near same shade as
surrounding area.....umbrosa (Smith)

- 50'. Fore wing white with dark markings;
filling of reniform and orbicular
lighter than surrounding area.....51
- 51 (50'). Apex of cucullus and clasper as in
Figures 47-53.....vittula (Grote)
- 51'. Apex of cucullus and clasper as in
Figures 55-61.....stenotis (Hampson)
- 52 (46'). Vesica with many very stout cornuti
(Fig. 158).....rodora (Dyar)
- 52'. Vesica otherwise.....53
- 53 (52'). Fore wing purplish-brown; reniform
green filled; green bar extending
from near base to black claviform,
and green patch near outer angle.....
.....renigera (Stephens)
- 53'. Fore wing without above combination
of characters.....54
- 54 (53'). Reniform with pale outline; lower edge
(cubitus vein) of discal cell and
origin of M_3 , Cu_1 , and Cu_2 contrast-
ingly marked with pale to whitish
scales.....spiculosa (Grote)

- 54'. Reniform with white outline; cubitus
vein not contrastingly marked.....
.....stricta (Walker)
- 55 (1'). Ovipositor medium to long in length
(Figs. 165-166).....56
- 55'. Ovipositor short (Fig. 17).....72
- 56 (55). Ductus bursae not heavily sclerotized,
and genital plate more than twice
as wide at bottom than at top
(Fig. 175).....rodora (Dyar)
- 56'. Ductus bursae heavily sclerotized at
least part of its length, and
genital plate usually less than
twice as wide at bottom than top.....57
- 57 (56'). Fore wing largely reddish-brown.....58
- 57'. Fore wing otherwise; may have some
brown overlay.....59
- 58 (57). Hind wing near same shade of reddish-
brown as fore wing.....meditata (Grote)
- 58'. Hind wing much lighter shade,
especially toward base, than fore
wing.....lepidula (Smith)

- 59 (57'). Postmedial line nearly straight and
not toothed on veins, and marked
by a single pale line.....60
- 59'. Postmedial line usually not straight
and toothed on veins; also usually
geminate and marked by dark scales.....61
- 60 (59). Periostium heavily sclerotized, expanded
laterally into lobes (Fig. 169).....
.....triplehorni n. sp.
- 60'. Periostium moderately sclerotized and
not expanded laterally (Fig. 176).....
.....erecta (Walker)
- 61 (59'). Fore wing with heavy black bar above
outer angle, extending from outer
margin to postmedial line (Figs. 247-
248).....aileenae n. sp.
- 61'. Fore wing without black bar near outer
angle.....62
- 62 (59'). Periostium heavily sclerotized with
large lateral expansions (Fig. 166).
.....63
- 62'. Periostium only weakly or moderately
sclerotized; if lateral expansions
present, they are small.....66

- 63 (62). Sclerotization of periostium not
symmetrical (Fig. 166).....
.....pensilis (Grote)
- 63'. Sclerotization of periostium
symmetrical.....64
- 64 (63'). Periostium with large lateral lobes
(Fig. 179).....teligera (Morrison)
- 64'. Periostium more in the shape of a
frontal lip or flange (Figs. 177-178).
.....65
- 65 (64'). Periostium large, rough edged, and
broadly rounded on top (Fig. 177).....
.....acutipennis (Grote)
- 65'. Periostium moderate, smooth edged,
somewhat pointed on top (Fig. 178)....
.....vicina (Grote)
- 66 (62'). Periostium not noticeably sclerotized.....67
- 66'. Periostium moderately sclerotized.....69
- 67 (66). Large flap or expansion on ductus
bursae immediately below periostium
(Fig. 199).....lustralis (Grote)
- 67'. Ductus bursae sclerotized but without
any obvious flaps or expansions
(Fig. 165).....68

- 68 (67'). Overall appearance of thorax dark
with a sprinkling of silvery
scales.....naevia (Smith)
- 68'. Overall appearance of thorax silvery
with a sprinkling of light brown
scales.....delongi n. sp.
- 69 (66'). Sclerotization of periostium weak but
distinct and without cleft
(Fig. 203).....
.....luteimacula (Barnes and Benjamin)
- 69'. Sclerotization of periostium moderate
and with distinct cleft.....70
- 70 (69'). Periostium with "U" shaped cleft
(Fig. 201).....gnata (Grote)
- 70'. Periostium with "V" shaped cleft
(Figs. 200, 202).....71
- 71 (70'). Periostium with deep cleft (Fig. 202)....
.....prognata McDunnough
- 71'. Periostium with shallow cleft (Fig. 200).
.....agnata (Smith)

- 72 (55'). No trace of tongue-like process at
junction of ductus bursae and
bursae copulatrix; bursae copulatrix
roundish; and postmedial line broadly
sinuate with lower half curving
completely under reniform and with
very small or no teeth on veins.....73
- 72'. Without above combination of
characters.....75
- 73 (72). Wingspread near 22 mm; claviform long,
discolorous and extending from base
of wing to postmedial line.....
.....longiclava (Smith)
- 73'. Wingspread nearly always over 22 mm;
claviform short, extending from
antemedial to postmedial line or less..
.....74
- 74 (73'). Fore wing with median area usually
contrastingly darkest.....anguina (Grote)
- 74'. Fore wing with median area usually
concolorous with rest of wing (some
specimens of anguina and incurva
indistinguishable).....incurva (Smith)

- 75 (72'). Periostium heavily sclerotized and
modified with expansions or
processes (Figs. 195, 197).....76
- 75'. Periostium not heavily sclerotized or,
if moderately sclerotized, then
not especially modified.....80
- 76 (75). Lateral plate-like process on ductus
bursae immediately below ostium
bursae (Fig. 197).....
.....quadrilineata (Grote)
- 76'. No such lateral process.....77
- 77 (76'). Periostium with central lip having broad
upside-down "V" shape beneath
(Fig. 195).....implicata McDunnough
- 77'. Lip of periostium without central cleft
beneath.....78
- 78 (77'). Periostium with lip shaped as roof-like
process.....laudabilis (Guenee)
- 78'. Lip of periostium otherwise shaped.....79
- 79 (78'). Ductus bursae with prominent bulge below
periostium (Fig. 196).....martini n. sp.

- 79'. No bulge below periostium (Fig. 192)
 (Also see 79').....
explicata McDunnough
- 79". Periostium may appear somewhat heavily
 sclerotized, but does not fit
 either of the two figures listed
 above.....80
- 80 (75', 79"). Periostium slightly to moderately
 sclerotized and lip arcuate and
 upturned or with deep cleft.....81
- 80'. Periostium not noticeably
 sclerotized or lip not upturned;
 lip may be wavy or with slight cleft..
101
- 81 (80). Sclerotized accessory plate on
 appendix bursae (Fig. 17).....82
- 81'. No accessory plate on appendix bursae.....88
- 82 (81). Fore wing ground reddish to yellowish
 brown.....baueri n. sp.
- 82'. Fore wing ground not as above.....83

- 83 (82'). Postmedial line not curving under
reniform and line more straight
than sinuate its length.....84
- 83'. Postmedial line curved under reniform
and sinuate its length.....85
- 84 (83). Periostrum with slight median cleft
(Fig. 182).....rectilinea (Smith)
- 84'. Periostrum without any cleft
(Fig. 183).....comis (Grote)
- 85 (83'). Fore wing with median area darker
than outer third.....86
- 85'. Fore wing with median area nearly as
light as outer third.....87
- 86 (85). Fore wing with brown patch in lower
portion of subterminal area; only
recorded from western United States...
.....davena (Smith)
- 86'. Fore wing nearly always without brown
patch in subterminal area; recorded
over much of the United States.....
.....olivacea (Morrison)

- 87 (85). Reniform with distinct white outline
 followed by row of black scales
 and pale filled.....sharonae n. sp.
- 87'. Without above combination of
 characters.....bucketti n. sp.
- 88 (81'). Periostium with moderately scler-
 otized lateral expansions
 (Fig. 193-194).....89
- 88'. No noticeable lateral expansions.....90
- 89 (88). Orbicular small, not over one-fourth
 size of reniform and outline of
 reniform concave on inner edge.....
tricornuti McDunnough
- 89'. Orbicular nearly half the size of
 reniform and inner and outer edges
 of reniform nearly parallel.....
dilatata (Smith)
- 90 (88'). Lower edge (cubitus vein) of discal
 cell and origin of M_3 , Cu_1 , and
 Cu_2 contrastingly marked with pale
 to whitish scales.....spiculosa (Grote)

- 90'. Not as above.....91
- 91 (90'). Fore wing dull ochraceous and post-
 medial line not toothed on
 veins.....lorea (Guenee)
- 91'. Without above two characters.....92
- 92 (91'). Fore wing largely shaded with pale
 green, median area dark purplish
 brown, and antemedial line with
 distinct tooth on 2A vein.....
viridifera McDunnough
- 92'. Without above combination of
 characters.....93
- 93 (92'). Fore wing with median area
 contrastingly darker than inner
 and outer third of wing.....
consimilis McDunnough
- 93'. Fore wing with median area
 concolorous with at least inner
 third of wing.....94
- 94 (93'). Claviiform long, extending from ante-
 medial to postmedial lines.....
stenotis (Hampson)

- 94'. Claviform not reaching postmedial
line or absent.....95
- 95 (94'). Postmedial line, at least from
bottom of reniform to inner margin,
black followed by white scales,
and distinctly marked.....96
- 95'. Postmedial line not as above.....97
- 96 (95). Periostrum with lip more than three
times as long as high (Fig. 190);
and fore wing markings black
contrasting against white ground.....
.....runica (Hampson)
- 96'. Periostrum with lip less than three
times as long as high (Fig. 191),
and markings not nearly as
contrasting.....stenotis (Hampson)
- 97 (95'). Postmedial line without tooth on
Cu₂ and claviform as large or
larger than orbicular.....
.....basiplaga (Smith)
- 97'. Without above two characters.....98
- 98 (97'). Fore wing with ground whitish or
light tan, and markings largely
obscure.....99

- 98'. Fore wing with ground fuscous
and markings largely indicated
by black scales.....100
- 99 (98). Fore wing with sprinkling of light
brown scales and lip of perios-
tium with hint of depression
along top edge (Fig. 189).....
.....palilis (Harvey)
- 99'. Fore wing overlaid with dark
brown scales and lip of perios-
tium without any depression along
top edge (Fig. 188).....
.....uliginosa (Smith)
- 100 (98'). Fore wing with outer angle contras-
tingly light to postmedial line;
or arch of lip of periostium
evenly curved (Fig. 185).....
.....vittula (Grote)
- 100'. Fore wing with outer angle concol-
orous with surrounding areas; or
arch of lip of periostium somewhat
flat along top edge (Fig 170, 184)....
.....umbrosa (Smith)

- 101 (80'). Posterior apophyses between one
and one-half to twice as
long as anterior apophyses;
Fore wing dull luteous gray, and
orbicular not outlined with black
scales.....leucogramma (Grote)
- 101'. Posterior apophyses near same
length or only slightly longer
than anterior apophyses; fore
wing with reniform and orbicular
usually outlined with black scales;
coloration variable.....102
- 102 (101'). Ductus bursae greatly expanded
immediately below periostium
(Fig. 198).....strigicollis (Wallengren)
- 102'. Ductus bursae not greatly expanded.....103
- 103 (102'). Anterior apophyses distinctly more
than half as long as ductus bursae
is long (Fig. 187).....stricta (Walker)
- 103'. Anterior apophyses less than half or
only slightly longer than ductus
bursae is long.....104

- 104 (103'). Periostium with lip wavy
 (Fig. 181).....marinitincta (Harvey)
- 104'. Periostium with lip not wavy.....105
- 105 (104'). Fore wing purplish-brown; reniform
 green filled; green bar extending
 from near base to black claviform
 and green patch near outer
 angle.....renigera (Stephens)
- 105'. Without above combination of
 characters.....106
- 106 (105'). Fore wing silvery gray and post-
 medial line not traceable
 because near same shade as
 surrounding area.....patalis (Grote)
- 106'. Not as above.....107
- 107 (106'). Fore wing with ground yellowish
 brown.....lorea (Guenee)
- 107'. Fore wing usually in shades of gray,
 but ground never yellowish brown.....108
- 108 (107'). Reniform much larger than orbicular;
 hind wing near same shade as fore
 wing, or at least uniformly grayish...
cuneata (Grote)

- 108'. Reniform near same size as orbicular
or only slightly larger; hind
wing much lighter than fore
wing, especially toward base.....109
- 109 (108'). Fore wing heavily overlaid with
reddish brown; outer angle
concolorous with much of outer
third of wing.....franclemonti n. sp.
- 109'. Fore wing not overlaid with reddish
brown and outer angle with small
white spot.....fordi n. sp.

SPECIES TREATMENT

Lacinipolia anguina (Grote)

(Figs. 12-13, 19-20, 204-208)

Mamestra anguina Grote, 1881:129; Grote, 1882a:26; Smith, 1891a:41; Smith, 1891b:266; Dyar, 1902:155; Forbes, 1954:88.

Polia anguina (Grote). Barnes and McDunnough, 1917:50.

Lacinipolia anguina (Grote). McDunnough, 1938:70.

Type locality: "Illinois"

Mamestra larissa Smith, 1895:338; Dyar, 1902:152; Forbes, 1954:89 (as race of anguina). NEW SYNONYMY.

Polia larissa (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia larissa (Smith). McDunnough, 1938:70 (as subspecies of anguina).

Type locality: "Calgary (Canada)"

DESCRIPTION

Male. Palpi ash gray on outer sides, much lighter on inside lateral edges. Antennae simple, pubescent laterally. Front whitish with spot near each eye. Collar and thorax concolorous, being fuscous with scales

silvery tipped. Collar with dark brown transverse band near apex. Abdomen slightly lighter on thorax. Fore wing concolorous with thorax. Median area contrastingly darkest. Basal line geminate, somewhat obscure, toothed on veins and extending down to basal dash. Antemedial line geminate, outwardly convex, its length silvery to pale filled, and toothed on veins. Postmedial line sinuate, geminate, being convex around reniform and concave below and completely under reniform; toothed on veins. Median area largely fuscous. Reniform large with its inner edge a black lunule, outer edge largely faint and pale filled. Orbicular roundish, smaller than reniform and pale filled. Claviform very small and outlined with black. Subterminal line largely obscure, indicated by difference in shades, and sharply dentate in fold. Fringe fuscous. Basal dash largely obscure. Anal dash distinct with whitish scales at middle. Hind wing smokey, darkest along outer margin and on veins. Fringe whitish with faint transverse median line.

Female. Slightly darker than male, especially noticeable on hind wing which is sordid along veins and outer margin.

TYPE MATERIAL

Lacinipolia anguina (Grote): The location of the type of anguina is unknown; however, the original description and the illustration of the male genitalia by Smith (1891) leave no doubt as to its identity.

Lacinipolia larissa (Smith): Holotype, male (USNM); Label Data - Tag 1, "Mamestra larissa type Sm.," Tag 2, "Type No. 10, USNM," Tag 3, "♂ gen. 132, 22 Dec. JAB," Tag 4, "Genitalia Slide by USNM 37051."

SPECIMENS EXAMINED (88)

ARKANSAS: Craighead Co., Jonesboro (5:CLSC); Fulton Co., Mammoth Spring (2:CLSC); Lawrence Co., Ravenden (1:CLSC).

CANADA: Alberta, Calgary (11:LACM); British Columbia, Kaslo (3:LACM); Nova Scotia, Auburn (2:LACM), Halifax (1:LACM), Kings (1:LACM), West Dover (1:LACM); Ontario, Geraldton (6:LACM), Nakina (4:LACM), Sudbury (10:LACM); Newfoundland, Gander (3:LACM).

KANSAS: Douglas Co., Lawrence (3:LACM).

MICHIGAN: Cheboygan Co. (1:MSUC); Chippewa Co. (3:MSUC); Kalkaska Co. (2:MSUC); Livingston Co. (2:MSUC); Mackinac Co. (1:MSUC); Midland Co. (1:MSUC); Otsego Co. (5:MSUC); Schoolcraft Co., Manistique (3:MSUC).

MISSOURI: St. Clair Co., Osceola (1:LACM).

NEW JERSEY: Ocean Co., Lakehurst (4:LACM), Wrangle Brook Road (1:LACM).

NEW MEXICO: Taos Co., Taos (1:LACM).

PENNSYLVANIA: Clearfield Co., Shawville (2:LACM);
Wyoming Co., Laceyville (1:LACM).

SOUTH DAKOTA: Lawrence Co. (1:BKMC).

WISCONSIN: Oneida Co. (1:LACM), Lake Katherine (6:LACM).

RECOGNITION CHARACTERS

The male genitalia of this species reveal the greatest and most obvious differences, especially in the shape of the cucullus and length of the clasper. Also see comments under incurva. A few specimens from Newfoundland differ slightly in that the median area is not contrastingly dark and many lines on the fore wing are obsolescent.

DISTRIBUTION

Widespread over much of the Eastern and Central United States and Canada.

Lacinipolia incurva (Smith)
(Figs. 8, 21-24, 171, 209-210)

Mamestra incurva Smith, 1887:466; Dyar, 1902:154.

Polia incurva (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia incurva (Smith). McDunnough, 1938:70.

Type locality: "New Mexico?" (See comment about locality under "Type Material").

DESCRIPTION

Male. Palpi white, suffused with dark scales except laterally. Antennae simple. Front pale gray, with dark spot near each eye. Collar and thorax similar having admixture of light and dark scales; broad dark transverse band on collar near apex; dark thoracic scales largely white to pale tipped. Abdomen concolorous but lighter than thorax. Fore wing overall dark ash gray, with maculation not contrasting but present, and essentially as in anguina. Basal line geminate, wavy and fading; extends to basal dash. Antemedial line geminate, with slight teeth on veins. Postmedial line geminate and sinuate its length, without distinct teeth on veins; curved around and then completely under reniform. Median space slightly, if at all, more

contrasting than rest of wing. Reniform kidney shaped with dark outline on inner edge only; filling concolorous with surrounding area. Orbicular roundish, slightly contrasting. Claviform indicated by partial outline of black; large and pointed. Subterminal line marked by pale scales with distinct, large tooth on Cu₂. Fringe concolorous. Anal dash present and split by subterminal line. Basal dash broken. Hind wing white, with few dark scales along outer margin.

Female. Slightly darker and more contrasting than male. Hind wing with dark scales along veins and entire outer margin; paler toward base.

TYPE MATERIAL

Lacinipolia incurva (Smith): Holotype, male (USNM); Label Data - Tag 1, "Las Vegas, N.M., H. Meeske, '89," Tag 2, "B. Neumogen," Tag 3, "Type No. 33813," Tag 4, "Mamestra incurva, Type Sm," Tag 5, "♂ gen. 143, 23 Dec. 31, JHB," Tag 6, "Probably either a spurious type or bears the wrong loc. label, JHB," Tag 7, "Genitalia slide by USNM 37052."

IMPORTANT NOTE: There has been a considerable amount of confusion concerning the identity of this

species and it stems mainly from the describer himself, J. B. Smith. Smith (1887) stated:

A well marked species, with a strong resemblance to anguina...the genitalia, though imperfect, are plainly like those of laudabilis and 4-lineata, and...

After examining the type specimen I must conclude that J. B. Smith was looking at the wrong genitalia slide when he made his description, because clearly the genitalia of the type incurva is not similar to laudabilis or quadrilineata. In 1891 Smith not only perpetuated his mistake but added to it by stating:

The genital structure is that of the group in type, but the harpes (valves) have the angle of tip extended as in leucogramma, and the clasper is stout, thick and irregularly twisted, forming two processes from one base.

It would be speculation as to what species he was holding at the time of the above statement, but it certainly was not incurva, as the apex of the valve is not extended to a tip as in leucogramma. A mystery still remains about the type locality. Smith (1887) states the type locality as "Arizona," but the type specimen in the USNM is labeled "New Mexico." Because of his error about the type locality and genitalia, but his correctness about other data and fore wing

maculation, it is possible that Smith did his work on this species at different times and mixed up his specimens.

SPECIMENS EXAMINED (197)

ARIZONA: Cochise Co. (2:LACM), Pinery Canyon (3:LACM); Coconino Co. (2:LACM), Parks (24:LACM); Santa Cruz Co. (1:LACM); Co. undet., Chiricahua Mountains (3:LACM), Baboquibari Mountains (3:LACM), Madera Canyon (2:LACM), Santa Rita Mountains (3:LACM), White Mountains (7:LACM).

COLORADO: Hinsdale Co., Lake City (2:LACM); Teller Co., Florissant (63:LACM).

NEW MEXICO: Taos Co. (1:LACM).

TEXAS: Brewster Co. (10:LACM), Alpine (1:LACM); Jeff Davis Co., Madera Canyon (5:LACM), Fort Davis (24:LACM); Kerr Co., Kerrville (12:LACM), Big Ben Pine Cay National Park (33:LACM).

UTAH: Aspen Mirror Lake (3:LACM).

RECOGNITION CHARACTERS

Superficially, anguina and incurva are very similar. Hind wing of anguina not as light as incurva. The median area of fore wing of anguina is usually contrastingly darker than the rest of wing, whereas this area of incurva

is nearly concolorous with rest of wing. The most obvious differences between these sibling species occurs in the male genitalia. Clasper of anguina is tapered to point and somewhat curved into cucullus, while the clasper of incurva appears to be blunt with claw-like process at apex, and not especially curved toward cucullus.

DISTRIBUTION

Arizona, Colorado, New Mexico, Texas, Utah.

Lacinipolia longiclava (Smith)

(Figs. 10, 14, 211-212)

Mamestra longiclava Smith, 1891a:265; Dyar, 1902:155.

Polia longiclava (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia longiclava (Smith). McDunnough, 1938:70.

Type locality: "Colorado"

DESCRIPTION

Male. Palpi pale gray, suffused with dark scales outside laterally. Front creamish, with dark spot near each eye. Collar and thorax largely admixture of light and dark scales, with some dark scales pale tipped. Fore wing discolorous with thorax, and markings largely obscure, most being indicated by faint pale lines. Basal and antemedial line appear obsolete. Postmedial line indicated by difference in shade between median and subterminal areas, and shows it to be strongly concave under reniform. Subterminal line distinct, marked by series of black and yellowish scales, and whitish spot at anal angle. Veins largely marked with black and white scales. Reniform upright, largely outlined with pale scales except inner edge darkest. Orbicular oblique with black outline. Claviform discolorous,

pale, extending from base to postmedial line, and obscurely margined with black scales. Fringe concolorous. Hind wing whitish with sordid scales intermixed especially along veins.

Female. Very similar to but larger than male.

TYPE MATERIAL

Lacinipolia longiclava (Smith): Holotype, male (USNM); Label Data - Tag 1, "Type No. 33810 USNM," Tag 2, "Colo, Bruce," Tag 3, "Col. B. Neumogen," Tag 4, "Mamestra longiclava, Type Sm."

SPECIMENS EXAMINED (26)

COLORADO: Montrose Co. (9:AMNH); Gunnison Co., Crested Butte (2:USNM); Co. undet., Alimont (3:LACM), Maysville (2:CNCI).

IDAHO: Co. undet. (2:AMNH)

UTAH: Garfield Co. (5:AMNH)

WYOMING: Lincoln Co., Opal (3:AMNH).

RECOGNITION CHARACTERS

Superficially longiclava looks like a small, faded incurva or anguina, and at first it was tempting to call this a subspecies of incurva; however, differences in

maculation and genitalia substantiate its specific status. The maculation of longiclava is far less distinct than either incurva or anguina, and the antemedial line is completely absent in longiclava. Also, the much longer claviform of longiclava is diagnostic. The male genitalia reveal differences with the clasper of longiclava more strongly curved toward cucullus, and the sacculus more robust than either incurva or anguina.

DISTRIBUTION

Idaho, Utah, Colorado, Wyoming.

Lacinipolia leucogramma (Grote) New Combination

(Figs. 25-26, 186, 213-215)

Mamestra (Dianthoecia?) leucogramma Grote, 1873a:140

(Grote felt that discovery of a female might place this species in the genus Dianthoecia; therefore, he placed it as given above.)

Mamestra leucogramma Grote. Grote, 1882a:27; Smith, 1891a:40; Smith, 1891b:208; Dyar, 1902:151.

Polia leucogramma (Grote). Barnes and McDunnough, 1917:50.

Scotogramma leucogramma (Grote). McDunnough, 1938:68.

Type locality: "California"

Polia canities Hampson, 1905:80; Barnes and McDunnough, 1917:50. NEW SYNONYMY

Lacinipolia canities (Hampson). McDunnough, 1938:70.

Type locality: "California"

Scotogramma francisca Smith, 1910a:96-97. NEW SYNONYMY

Polia francisca (Smith). Barnes and McDunnough, 1917:50.

Lacinipolia francisca (Smith). McDunnough, 1938:70.

Type locality: "California"

DESCRIPTION

Male. Palpi sordid luteous gray, lightest inside. Antennae weakly serrate and ciliate. Front cream with tendency for brownish spot near each eye. Collar, thorax and abdomen concolorous with palpi. Fore wing slightly lighter than thorax, and markings somewhat diffuse but traceable. Maculation largely indicated by differences in shades. Basal line indistinct. Areas of wing concolorous; none contrasting. Antemedial barely traceable, denticulate. Postmedial line more distinct, denticulate, with light followed by dark scales. Reniform kidney shaped, constricted on outer edge, pale filled and few dark scales on outline. Orbicular roundish, pale filled. Claviform oblong, faint. Subterminal line denticulate with yellow scales and scattered dark points. Fringe concolorous. No distinct dashes. Hind wing fuscous, lightest toward base.

Female. Only slightly darker than male and markings slightly more distinct.

TYPE MATERIAL

Lacinipolia leucogramma (Grote): The type leucogramma is in the British Museum and was examined by Smith. This species is quite distinct and Smith (1891) illustrated

the genitalia of the male which is similar to no other.

Lacinipolia canities (Hampson): A letter before me from I. W. Beresford Nye of the British Museum (N.H.) states, "The B.M.(N.H.) has only the holotype ♂ whose forewings are worn and show little pattern. I have compared the genitalia L.A.C.M. 560 with those of the holotype and they are a perfect match."

Lacinipolia francisco (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "San Francisco 10-4-08, F. X. Williams," Tag 2, "J. B. Smith Collection, Rutgers," Tag 3, "Scotogramma francisco, ♂ type, Smith," Tag 4, "Lectotype francisco Sm. by E. L. Todd."

SPECIMENS EXAMINED (85)

ARIZONA: Pima Co. (1:LACM).

CALIFORNIA: Contra Costa Co. (1:LACM); Los Angeles Co. (60:LACM); San Bernardino Co. (6:LACM); San Diego Co. (1:LACM); Riverside Co., Antioch (1:LACM); Ventura Co. (11:LACM).

RECOGNITION CHARACTERS

This species is not easily confused with other Lacinipolia. The male genitalia are quite unique in that the clasper is sickle-shaped and the cucullus is drawn out to a slender curved hook at one corner of apex.

DISTRIBUTION

Arizona, California

Lacinipolia umbrosa (Smith)

(Figs. 27-34, 170, 184, 216-217)

Scotogramma umbrosa Smith, 1887:470; Smith, 1891a:42;

Dyar, 1902:159.

Polia umbrosa (Smith). Barnes and McDunnough, 1917:50.

Lacinipolia umbrosa (Smith). McDunnough, 1938:70.

Type Locality: "Arizona"

Mamestra intentata Smith, 1898:245; Dyar, 1902:156.

Polia intentata (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia intentata (Smith). McDunnough, 1938:70 (as synonym of umbrosa).

Type locality: "Colorado"

DESCRIPTION

Male. Palpi fuscous, lighter inside edge. Antennae simple, pubescent. Front, collar and thorax concolorous with palpi but thorax slightly darkest. Abdomen slightly lighter. Fore wing concolorous with thorax and markings vague but traceable. Areas of wing concolorous. Basal line geminate, denticulate and pale filled. Antemedial line geminate, denticulate and pale filled. Postmedial line sinuate its length, otherwise same as antemedial line. Reniform kidney shaped, constricted and pale to silvery filled. Orbicular roundish, otherwise similar

to reniform. Claviform with darkest outline and filling concolorous with surrounding area. Subterminal line indicated by pale denticulate shade. Fringe concolorous. No distinct dashes. Hind wing blackish, paler toward base. Fringe white with median band.

Female. Overall darker than male. Pale filling of markings with pale yellowish tinge. Hind wing of female more sordid than male.

TYPE MATERIAL

Lacinipolia umbrosa (Smith): Lectotype, female (USNM); Label Data - Tag 1, "Ari.," Tag 2, "Holl.," Tag 3, "Type No. 163, USNM," Tag 4, "Scotogramma umbrosa, Type Sm.," Tag 5, "Lectotype S. umbrosa Sm. by E. L. Todd."

Lacinipolia intentata (Smith): Lectotype, male (USNM); Label Data - Tag 1, "Colo. 2693," Tag 2, "Type No. 4156, USNM," Tag 3, "Mamestra intentata ♂ type, Smith," Tag 4, "Lectotype M. intentata Sm. by E. L. Todd."

SPECIMENS EXAMINED (65)

ARIZONA: Apache Co., White Mountains (1:FMNH); Navajo Co., (7:AMNH); Co. undet., Hualapi Mountains (2:LACM), White Mountains (12:LACM).

COLORADO: El Paso Co. (2:AMNH); Teller Co.,
Florissant (18:LACM); Co. undet., Maysville (1:AMNH)
(2:FMNH).

NEW MEXICO: Co. undet., Frijoles Can. (canyon?)
(16:AMNH), Woodgate (2:LACM).

UTAH: Co. undet., Bryce Canyon (2:AMNH).

RECOGNITION CHARACTERS. Superficially resembles a dark leucogramma, but umbrosa is slightly larger and the maculation is much more distinct. The male genitalia of the two species are quite different in that umbrosa has a somewhat hammer-shaped and distinctly truncated clasper whereas the clasper of leucogramma is tapered to a point.

DISTRIBUTION

Arizona, Colorado, New Mexico, Utah

Lacinipolia uliginosa (Smith)

(Figs. 1-2, 9, 35-40, 188, 218-219)

Mamestra uliginosa Smith, 1905a:202.

Polia uliginosa (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia uliginosa (Smith). McDunnough, 1938:70.

Type Locality: "Texas"

Polia (Mamestra) bicolor. Barnes and McDunnough, 1913:107.

(Apparently the authors were undecided on the proper genus); Ibid., 1917:51.

Lacinipolia bicolor (Barnes and McDunnough). McDunnough, 1938:70 (as synonym of uliginosa.)

Type Locality: "Texas"

DESCRIPTION

Palpi blackish brown on segments one and two, lighter inside; apical segment cream. Antennae simple, pubescent. Front whitish with tendency for dark spot near each eye. Collar and thorax whitish with sprinkling of dark scales with transverse band on collar near apex. Abdomen concolorous but slightly lighter. Fore wing concolorous with thorax but overall darker. Markings largely indicated by whitish ground. Basal line distinct, geminate, shape of "W." Antemedial line straight its length but denticulate,

fades somewhat in central portion. Postmedial line sinuate its length, denticulate, and bottom half obscure. Subterminal area is lightest. Reniform large, upright, oblong and slightly constricted in center. Claviform indistinct. Fringe largely white, with sprinkling of few dark scales. No distinct dashes. Hind wing nearly white, except along outer margin few dark scales. Fringe white.

Female. Similar to male but hind wing sordid, with yellowish tendency.

TYPE MATERIAL

Lacinipolia uliginosa (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "Kerrville, Texas," Tag 2, "Collection, J. B. Smith," Tag 3, "Mamestra uliginosa ♂ type, Smith," Tag 4, "Lectotype Mamestra uliginosa Sm. by E. L. Todd."

Lacinipolia bicolor (Barnes and McDunnough): Lectotype (here designated), male (AMNH); Label Data - Tag 1, "Kerrville X-11, Texas," Tag 2, "H. Lacey, Collector," Tag 3, "Barnes Collection," Tag 4, "♂ genitalia on slide, Dec. 30, 1938, H.G.C. # 2307," Tag 5, "Polia bicolor, Type ♂, B. & McD."

SPECIMENS EXAMINED (34)

NEW MEXICO: Otero Co., High Rolls (1:LACM).

TEXAS: Brewster Co. (10:LACM); Jeff Davis Co. (17:LACM); Kerr Co., Kerrville (6:LACM).

RECOGNITION CHARACTERS

Most of the lines on the fore wing superficially appear blurred, and ordinary dashes absent. The cucullus of the male genitalia is extended to point at apex and clasper somewhat hammer-shaped. Periostium of female with single, even hump. Maculation close to palilis.

DISTRIBUTION

New Mexico, Texas.

Lacinipolia palilis (Harvey)

(Figs. 41-46, 189, 220-221)

Dianthoecia palilis Harvey, 1875:273.

Mamestra palilis (Harvey). Grote, 1882a:27.

Taeniocampa palilis (Harvey). Smith, 1891a:48.

Graphiphora palilis (Harvey). Dyar, 1902:166.

Polia palilis (Harvey). Barnes and McDunnough, 1917:51.

Lacinipolia palilis (Harvey). McDunnough, 1938:70.

Type Locality: "Texas"

DESCRIPTION

Male. Palpi largely white with sprinkling of dark scales on outer sides of first and second segments. Antennae simple, pubescent. Front white, with yellowish-brown spot near each eye. Collar and thorax whitish or cream with dark scales. Abdomen concolorous. Fore wing ground slightly more yellowish-brown than thorax, and markings indistinct and indicated by changes in shade. Basal line geminate, denticulate, cream filled. Antemedial line denticulate, especially on 2A. Post-medial line nearly sinuate its length and pale filled. All spots indistinct. Subterminal line present as pale denticulate line. Fringe nearly white. Hind wing

immaculate.

Female. Distinctly much darker than male causing most lines to become traceable. Female appears overall golden-brown, whereas the male tends to be more yellowish-brown.

TYPE MATERIAL

Type location unknown; however, there are three specimens in the USNM labeled, "palilis, XT (checked type) Han. J. McD (J. H. McDunnough)," Tag 1, "Kerrville, Texas."

SPECIMENS EXAMINED (16)

TEXAS: Kerr Co., Kerrville (1:AMNH), (3:USNM), (5:LACM); Kimball Co. (1:AMNH); Co. undet. (5:AMNH), Shovel Mountains (1:FMNH).

RECOGNITION CHARACTERS

A combination of two characters should easily separate this species. Ordinary spots and lines on fore wing not distinct and male genitalia with cucullus extended to point and clasper large, and somewhat hammer-shaped. Palilis should be confused only with uliginosa, but the latter is much darker brown.

DISTRIBUTION

Texas.

Lacinipolia vittula (Grote)

(Figs. 47-54, 172, 185, 222-223)

Mamestra vittula Grote, 1882b:48; Smith, 1891a:40;

Smith, 1891b:218; Dyar, 1902:152.

Polia vittula (Grote). Barnes and McDunnough, 1917:51.

Lacinipolia vittula (Grote). McDunnough, 1938:70.

Type Locality: "New Mexico"

DESCRIPTION

Male. Palpi sordid, slightly darker on outside lateral edges. Antennae simple, pubescent. Front, collar, thorax and abdomen concolorous with many dark brown scales pale or silvery tipped. Fore wing concolorous with thorax. Basal line distinct, angulated, pale filled. Antemedial line geminate, faded on costal half, denticulate, with deepest tooth on 2A. Postmedial line similar to antemedial line but slightly sinuate. Subterminal area lightest. Subterminal line denticulate between veins as pale shade. Veins in subterminal area marked by dark scales. Reniform kidney shaped, top edge faded, and pale filled. Orbicular roundish, small, with dark center. Claviform with dark outline, filling

concolorous. Fringe concolorous. Basal dash present, short. Hind wing largely white with some dark scales along veins.

Female. Much darker than male, especially noticeable on hind wing which is entirely sordid; however, maculation same as male.

TYPE MATERIAL

Lacinipolia vittula (Grote): Holotype, male (USNM); Label Data - Tag 1, "Las Vegas, N.M., 7000 ft., July, '82, F. H. Snow," Tag 2, "Col. B. Neumogen," Tag 3, "Type No. 33812 USNM," Tag 4, (Tag 4 faded) "Mamestra vittula."

SPECIMENS EXAMINED (12)

ARIZONA: Gochise Co. (1:AMNH); Mohave Co. (10:AMNH).

NEW MEXICO: Clark Co., Las Vegas (1:USNM).

RECOGNITION CHARACTERS

Superficially very similar in maculation to stenotis, but markings of vittula not nearly as contrasting. The best characters for their separation are found in the genitalia, both male and female. The male clasper of vittula is twice as large on its distal half compared to its basal half; however, the clasper of stenotis is less than twice as large distally. The female periostrum of vittula is concave on both sides of a median hump,

but the periostium of stenotis is evenly curved its .
length.

DISTRIBUTION

Arizona, New Mexico.

Lacinipolia stenotis (Hampson)
(Figs. 3-5, 55-62, 191, 224-225)

Polia stenotis Hampson, 1905:168; Barnes and McDunnough,
1917:51.

Lacinipolia stenotis (Hampson). McDunnough, 1938:70.

Type Locality: "California"

DESCRIPTION

Male. Palpi whitish, with heavy sprinkling of brown scales on segments one and two. Antennae simple, ciliate. Front cream with dark bar between eyes. Collar and thorax cream with heavy sprinkling of dark scales, especially along lines. Very thin transverse band near apex of collar. Abdomen lighter. Fore wing concolorous with thorax, but slightly more yellowish. Lines marked by dark scales, diffuse but traceable. Basal line indicated largely by wavy pale shade with scattered dark scales along outline. Antemedial line straight its length, but denticulate; deep tooth on 2A. Postmedial line geminate but outer edge on lower half obscure, denticulate. Median area slightly darkest. Reniform kidney shaped with slight tooth on inside, lower edge and pale filled. Orbicular roundish, dark outlined,

and pale filled. Claviform longer than orbicular, heavy outline. Fringe slightly darker on terminal area, wavy median band. Anal Dash traceable but diffuse. Hind wing white with some sordid scales along outer margin and veins. Fringe distinctly white.

Female. Female darker than male, with much more contrasting maculation. Hind wing almost entirely sordid, and veins contrast by even darker scales.

TYPE MATERIAL

A letter before me from I.W. Beresford Nye of the British Museum (NH), states, "The B.M. (N.H.) has 4 ♂ syntypes and a female specimen. One of the syntypes bears a printed label 'Walshingham West U.S.A. 89-93. Camp.', and a label in Hampson's handwriting, 'Mamestra stenotis Hampson, type ♂.' I have compared the genitalia L.A.C.M. 61-109 with those of the 'lectotype' and they are a perfect match. I have compared the genitalia of our ♀ from Utah, U.S.A. with your L.A.C.M. 538 and they are a perfect match." The specimen labeled "Mamestra stenotis Hampson , type ♂ " is here designated Lectotype.

SPECIMENS EXAMINED (99)

CALIFORNIA: Inyo Co., Death Valley (1:LACM), Green Water (1:LACM), Independence Creek (1:LACM), Mt. Bishop

(3:LACM); Kern Co., Cache Creek (1:LACM); Los Angeles Co., Clark Mountains (7:LACM), Mex. Wells (1:LACM), Mint Canyon (14:LACM), Singing Springs (1:LACM), Pearblossom (5:LACM), Valyermo (5:LACM), Vincent (7:LACM); San Bernardino Co., Ivanpah Mts. (1:LACM), New York Mts. (32:LACM).

NEVADA: Co. undet., Mt. Maguder (1:LACM).

UTAH: Juab Co., Eureka (3:LACM); Morgan Co., Devil's Slide (16:LACM).

RECOGNITION CHARACTERS

Similar to vittula and most easily separated from it by the combination of characters given therein.

DISTRIBUTION

California, Nevada, Utah.

Lacinipolia meditata (Grote)

(Figs. 180, 228-229)

Dianthoecia meditata Grote, 1873a:104.Mamestra meditata (Grote). Grote, 1882a:27, Smith,
1891a:40; Smith, 1891b:210; Dyar, 1902:151.Polia meditata (Grote). Barnes and McDunnough, 1917:50.Lacinipolia meditata (Grote). McDunnough, 1938:70.

Type Locality: "New York"

Mamestra brachiolum Harvey, 1876:6; Grote 1882a:27; Smith
1891a:41; Smith, 1891b:242; Dyar, 1902:153. NEW

SYNONYMY.

Polia brachiolum (Harvey). Barnes and McDunnough, 1917:50.Lacinipolia brachiolum (Harvey). McDunnough, 1938:70.

Type Locality: "Arizona"

Taeniocampa columbia Smith, 1887:472; Smith, 1891a:48.Graphiphora columbia (Smith). Dyar, 1902:166.Polia columbia (Smith). Barnes and McDunnough, 1917:50.Lacinipolia columbia (Smith). McDunnough, 1938:70 (as
subspecies of meditata).Mamestra columbia (Smith). Forbes, 1954:88 (as race of
meditata).

Type Locality: "British Columbia"

Mamestra determinata Smith, 1891b:209; Dyar, 1902:151;

Forbes, 1954:88 (as race of meditata). NEW SYNONYMY.

Polia determinata (Smith). Barnes and McDunnough,
1917:50.

Lacinipolia determinata (Smith). McDunnough, 1938:70.

Type Locality "Colorado"

Mamestra selama Strecker, 1898:7; Dyar, 1902:156. NEW
SYNONYMY.

Polia selama (Strecker). Barnes and McDunnough, 1917:50.

Lacinipolia selama (Strecker). McDunnough, 1938:70.

Type Locality: "Texas"

DESCRIPTION

Male. Palpi, front, collar and thorax concolorous, being reddish brown and slightly irrorated with bluish scales. Antennae serrate, bristly. Abdomen lighter but concolorous with thorax. Fore wing concolorous with thorax; markings indistinct. Basal line obsolete. Antemedial line outwardly oblique and wavy. Postmedial line denticulate on veins. Subterminal line indicated by slight difference in shades of areas. Ordinary spots blending with surrounding areas. Fringe concolorous. Hind wing nearly same shade as fore wing. Fringe slightly lighter.

Female. Like male except slightly darker.

TYPE MATERIAL

Lacinipolia meditata (Grote): A note in the USNM says that the type is in the British Museum; however there is a specimen in the USNM labeled as follows: Tag 1, "B846," Tag 2, "Newton Highlands, Mass., 18," Tag 3, "meditata Grt. XT (checked type), J. McD (J. H. McDunnough)."

Lacinipolia columbia (Smith): Lectotype, male (USNM); Label Data - Tag 1, "Ft. Calgary, N.W. British Columbia," Tag 2, "Type No. 33802 USNM," Tag 3, "Taeniocampa columbia, Type Sm.," Tag 4, "Lectotype columbia Sm. by E. L. Todd."

Lacinipolia determinata (Smith): Lectotype, male (USNM); Label Data - Tag 1, "60, Foothills, Colo., D. Bruce," Tag 2, "Type No. 148, USNM," Tag 3, "36511," Tag 4, "Mamestra determinata, Type Sm.," Tag 5, "Lectotype determinata Sm. by E. L. Todd."

Lacinipolia selama (Strecker): I am accepting the synonymy of J. H. Barnes because specimens of this species cannot be found. A tag on a photograph (not on specimen) in the USNM says, "selama = meditata var. JHB 1935."

Lacinipolia brachiolum (Harvey): I am accepting the synonymy of J. H. Barnes because specimens of this species

cannot be found. A tag on a photograph (not on specimen) in USNM says, "brachiolum = meditata var. JHB 1935."

SPECIMENS EXAMINED (185)

CANADA: Alberta, Calgary (1:LACM); Manitoba (2:LACM), (10:AMNH), Winnipeg (1:LACM).

CONNECTICUT: Windham Co., Putnam (6:AMNH).

MAINE: Penobscot Co., Enfield (8:AMNH).

MASSACHUSETTS: Berkshire Co., Tyringham (1:AMNH).

MICHIGAN: Antrium Co. (1:MSUC); Arenac Co. (4:MSUC); Grand Traverse Co. (1:MSUC); Ingham Co. (2:MSUC), East Lansing (15:MSUC); Kalamazoo Co. (1:MSUC); Leelanau Co. (1:MSUC); Midland Co. (2:MSUC); Oakland Co. (20:MSUC); Oceana Co. (11:MSUC); Otsego Co. (4:MSUC); Wexford Co. (1:MSUC).

NEW JERSEY: Ocean Co., Lakehurst (1:AMNH); Union Co. (12:AMNH).

NEW YORK: Tompkins Co., Ithaca (4:LACM).

OHIO: Franklin Co. (7:OSUC); Vinton Co. (2:MSUC).

PENNSYLVANIA: Allegheny Co. (4:LACM) (5:CMIC), Pittsburgh (19:LACM), Tarentum (1:BKMC), Warrendale (3:LACM); Butler Co. (1:LACM); Lacawanna Co., Scranton (1:LACM); Co. undet., Edgebrook (2:LACM).

VIRGINIA: Fairfax Co., Arlington (2:LACM).

WISCONSIN: Marathon Co. (1:LACM), Wausau (5:LACM);
Milwaukee Co., Milwaukee (1:LACM); Oneida Co. (6:LACM),
Lake Katherine (24:LACM).

RECOGNITION CHARACTERS

This reddish-brown, obscurely marked moth is easily identified from the key and photograph alone. Some specimens lose the reddishness.

DISTRIBUTION

Eastern United States and Canada to the Mississippi River.

Lacinipolia lustralis (Grote)

(Figs. 63-64, 199, 226-227)

Dianthoecia lustralis Grote, 1875a:223.

Mamestra lustralis (Grote). Grote, 1882a:27; Smith, 1891a:40; Smith, 1891b:210; Dyar, 1902:151; Forbes, 1954:88.

Polia lustralis (Grote). Barnes and McDunnough, 1917:49.

Lacinipolia lustralis (Grote). McDunnough, 1938:70.

Type Locality: "Racine (Wisconsin)"

Taeniocampa suffusa Smith, 1887:474; Smith, 1891a:48.

Mamestra suffusa (Smith). Dyar, 1902:151 (as synonym of lustralis); Forbes, 1954:88.

Polia suffusa (Smith). Barnes and McDunnough, 1917:49 (as subspecies of lustralis).

Lacinipolia suffusa (Smith). McDunnough, 1938:70 (as subspecies of lustralis).

Type Locality: "Colorado, Arizona"

Mamestra cervina Smith, 1898:247; Dyar, 1902:156;

Forbes, 1954:88 (as synonym of lustralis).

Polia cervina (Smith). Barnes and McDunnough, 1917:49 (as synonym of lustralis).

Lacinipolia cervina (Smith). McDunnough, 1938:70 (as synonym of lustralis).

Type Locality: "Manitoba"

DESCRIPTION

Male. Palpi, front collar, thorax and abdomen concolorous, being fuscous. Collar with transverse band. Antennae serrate, or appearing somewhat narrowly pectinate. Fore wing violet gray, shaded and marked with light brown; median area slightly reddish. Basal line fragmentary. Antemedial line geminate, wavy and pale filled. Postmedial line geminate but outer line faint and weakly denticulate. Subterminal area whitish, with pale patch at apex. Subterminal line wavy, pale and deeply concave on Cu_2 . Reniform kidney shaped, oblong, pale filled and top edge faded. Orbicular oblique and pale filled. Claviform small, bottom edge missing. Fringe sordid. Hind wing smokey and only slightly paler toward base. Fringe concolorous.

Female. Very similar to male and only slightly darker. Reddish tinge more prominent.

TYPE MATERIAL

Lustralis was described from a single female collected by O. Meske at Racine (Wisconsin), and a note in the USNM says that the type is in the British Museum. I have not seen the type, but the original description of this unique Lacinipolia, in addition to the fact that J. B. Smith saw the type and labeled several of the lustralis in the USNM, leave little doubt as to its status.

Lacinipolia suffusa (Smith): Lectotype, male (USNM);
 Label Data - Tag 1, "Col.," Tag 2, "Type No. 33803,
 USNM," Tag 3, "Taen. suffusa ♂ type, Sm., Coll. Edw. L.
 Graef," Tag 4, "Lectotype suffusa Sm. by E. L. Todd."

Lacinipolia cervina (Smith): Lectotype, male (USNM);
 Label Data - Tag 1, "W. Man," Tag 2, "Winnipeg, Man,"
 Tag 3, "USNM. Acc. No. 34638," Tag 4, "Mamestra
cervina, ♂ type, Sm," Tag 5, "Lectotype cervina Sm.
 by E. L. Todd."

SPECIMENS EXAMINED (78)

ARKANSAS: Craighead Co., Jonesboro (14:CLSC);
Fulton Co., Mammoth Spring (22:CLSC).

MAINE: Hancock Co., Bar Harbor (1:FMNH).

MICHIGAN: Chippewa Co. (1:MSUC); Iron Co. (1:MSUC);
Otsego Co. (13:MSUC); Roscommon Co. (2:MSUC).

OHIO: Franklin Co. (2:CLSC), (3:OSUC).

PENNSYLVANIA: Allegheny Co., Pittsburg (12:CMIC);
Lancaster Co., Lititz (4:USNM); Wayne Co., White Mills
 (7:USNM).

WISCONSIN: Vilas Co., Sayner (1:FMNH).

RECOGNITION CHARACTERS

The serrate antennae of the male of this species
 separates it from most Lacinipolia. The fore wing is

violet gray and marked with brown. This species is not easily confused with others in this genus.

DISTRIBUTION

Probably occurs over the entire eastern United States.

Lacinipolia gnata (Grote)
(Figs. 65-66, 201, 230-231)

Mamestra gnata Grote, 1882c:170: Smith, 1891b:212;

Dyar, 1902:151.

Polia gnata (Grote). Barnes and McDunnough, 1917:50.

Lacinipolia gnata (Grote). McDunnough, 1938:70.

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi, front collar and thorax dark ash gray. Abdomen lighter. Transverse band on collar very dark and distinct. Antennae serrate with lateral tufts. Fore wing concolorous with thorax and transverse lines geminate and not well defined. Basal and antemedial lines vague but traceable, denticulate. Postmedial line convex around reniform, then straight to inner margin; denticulate and pale filled. Subterminal line wavy, narrow and indicated by difference in shades. Well defined whitish spot at anal angle. Reniform oblong, slightly oblique, pale filled and top edge of outline missing. Orbicular round, pale filled and with incomplete outline. Claviform small, concolorous, outlined in black. Fringe concolorous. Hind wing white with sordid scales along

outer margin and veins. Fringe whitish with wavy median band.

Female. Larger than male. Maculation and coloration similar to male, but darker. Hind wing sordid throughout.

TYPE MATERIAL

Lacinipolia gnata (Grote): Holotype, male (USNM); Label Data - Tag 1, "Arizona," Tag 2, "Col. B. Neumogen," Tag 3, "Type No. 33804, USNM," Tag 4, "Mamestra gnata Grote, Type."

SPECIMENS EXAMINED (11)

ARIZONA: Cochise Co., South Fork (9:LACM); Co. undet. (1:USNM).

NEW MEXICO: Co. undet. (1:USNM).

RECOGNITION CHARACTERS

This species is similar to many different Lacinipolia and is best identified with a male. The antennae are distinctly serrate, unlike most Lacinipolia; also the ampulla is flap-like and the aedaeagus possesses a stout thorn-like process below its apex. Female periostrum is also diagnostic, having distinct "U" shaped cleft.

DISTRIBUTION

Arizona, New Mexico

Lacinipolia agnata (Smith)

(Figs. 71-72, 167, 200, 236-237)

Mamestra agnata Smith, 1905a:200.

Polia agnata (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia agnata (Smith). McDunnough, 1938:70.

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi, front collar and thorax somewhat uniformly ash gray. Abdomen concolorous but slightly lighter. Collar with distinct black transverse band. Antennae serrate and bristle tufted. Fore wing concolorous with thorax, with markings cleanly defined and complete, but not contrasting, except for white spot at anal angle. Basal line geminate and black. Antemedial line typical, geminate and pale filled. Postmedial line wavy and somewhat lunulate. Subterminal line whitish, making two even outward curves its length. White spot at anal angle similar to spot in gnata. Reniform upright, black margined, with a pale interior ring, and center paler than ground but not contrasting. Orbicular large, roundish and black outlined. Fringe concolorous. Hind wing white with sordid scales along outer margin and veins.

Female. Slightly larger than male. Maculation and coloration as found in male, but female darkest. Hind wing distinctly sordid.

TYPE MATERIAL

Lacinipolia agnata (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "Redington, Arizona," Tag 2, "J. B. Smith Collection, Rutgers," Tag 3, "Mamestra agnata ♂ type, Sm.," Tag 4, "Lectotype agnata Sm. by E. L. Todd."

SPECIMENS EXAMINED (50)

ARIZONA: Cochise Co. (3:LACM); Coconino Co. (9:LACM); Gila Co. (18:LACM); Graham Co. (1:LACM); Co. undet., Redington (9:USNM), White Mountains (5:LACM).

COLORADO: Teller Co. (2:LACM).

NEW MEXICO: Santa Fe Co. (1:LACM), Frijoise Canyon (1:LACM).

RECOGNITION CHARACTERS

Superficially similar to numerous Lacinipolia. For the most accurate identification one should examine the male and female genitalia, both having excellent characters. The male aedaeagus has a strongly curved carina and a stout spur on the vesica, whereas the female has a laterally expanded process on the ductus bursae immediately below the periostium.

DISTRIBUTION

Arizona, Colorado, New Mexico.

Lacinipolia prognata McDunnough

(Figs. 15-16, 202, 232-233)

Lacinipolia prognata McDunnough, 1940:197.

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi smokey, inner edge and third segment paler. Antennae weakly serrate and fasciculate. Front light gray with dark bar between eyes. Collar concolorous with front; black transverse band. Thorax purplish gray, and some scales tipped with white or black. Abdomen lighter. Fore wing concolorous with thorax and markings largely diffuse but distinctly traceable. Basal line somewhat indistinct. Antemedial line vague, smokey. Postmedial line appears as single line, convex around reniform, then straight to inner margin; touching lower edge of reniform and denticulate on veins. Subterminal line marked with pale scales, most distinct at anal angle and bordered inwardly by blackish spot. Reniform upright, constricted at center, black outlined and pale filled. Orbicular similar to reniform but roundish. Claviform small, concolorous, with black outline, pointed. Fringe concolorous. Hind wing smokey, slightly paler at base. Fringe concolorous.

Female. Quite similar to male, and not noticeably darker.

TYPE MATERIAL

The Canadian National Museum provided photographs of the genitalia and adults; therefore, label data for each of the following types is according to McDunnough (1940).

Lacinipolia prognata McDunnough: Holotype, male:

Label Data - "Cave Cr. Chiricahua Mts., Ariz., May 24, 1934, (J. A. Comstock); No. 5080 in Canadian National Collection, Ottawa." Allotype, female; Label Data - "same data, in Coll. Los Angeles Museum." Paratypes, "1 male, same data as holotype in Coll. Los Angeles Museum; 7 males, 2 females, same locality, May 23-24, 1934, (G. and J. Sperry); in the Canadian National Collection, Ottawa, and Coll. G. Sperry, Riverside, California."

SPECIMENS EXAMINED (58)

ARIZONA: Cochise Co., Huachuca Mts. (56:LACM); Chiricahua Mts. (1:LACM); Gila Co. (1:LACM).

RECOGNITION CHARACTERS

Superficially very similar to delongi; however, the orbicular is oblique in delongi and the basal dash is

absent or indistinct in prognata. The antennae of prognata are simple or weakly serrate, whereas the male of delongi has a distinctly serrate antennae. Also, see remarks under delongi.

DISTRIBUTION

Arizona.

Lacinipolia delongi New Species

(Figs. 67-68, 234-235)

Type Locality: Arizona

DESCRIPTION

Male. Palpi smoky inner edge and third segment paler. Antennae serrate. Front collar and thorax concolorous, being light gray. Collar with faint transverse band subapically. Many dark scales of thorax silvery tipped. Abdomen concolorous. Fore wing concolorous with thorax and markings somewhat indistinct. Basal line obsolete. Antemedial line faint. Postmedial line convex around reniform, but straightening below reniform to inner margin; denticulate on veins. Subterminal line vague, marked by pale scales. Reniform upright, constricted near center, and black outlined. Orbicular oblique. Claviform and fringe concolorous. Basal dash present. Hind wing dull smokey, slightly paler at base. Fringe concolorous.

Female. Similar to male but antennae distinctly simple and pubescent. Also, claviform long, extending from antemedial to postmedial lines.

TYPE MATERIAL

Lacinipolia delongi New Species: Holotype, male (LACM); Label Data - Tag 1, "June 22, 1955, Madera Canyon, Sta. Rita Mts., Sta. Cruz Co., Ariz., El. 5800 end of road, Lloyd M. Martin," Tag 2, "Genitalia mounted on slide no. 61-4, Lloyd M. Martin," Tag 3, "Holotype L. delongi C.L. Selman, '75." Allotype, female (LACM); Label Data - Tag 1, "June 26, 1955, Upper camp, Pinery Can., Chirichua Mts., Cochise Co., Ariz., Lloyd Martin," Tag 2, "Genitalia mounted on slide no. 503, Lloyd M. Martin," Tag 3, "Allotype L. delongi, C. L. Selman, '75." Both types will be deposited in the LACM.

SPECIMENS EXAMINED (10)

ARIZONA: Cochise Co., Chirichua Mts. (5:LACM); Santa Cruz Co., Rita Mts. (5:LACM).

RECOGNITION CHARACTERS

Superficially similar to prognata (See remarks under prognata.) Males can be identified by their serrate antennae and their uniquely structured genitalia. They have a large spatulate clasper and a large ampulla possessing a claw-like process.

DISTRIBUTION

Arizona.

Lacinipolia naevia (Smith) - New Combination

(Figs. 69-70, 165, 238-239)

Mamestra naevia Smith, 1898:248; Dyar, 1902:156.

Polia naevia (Smith). Barnes and McDunnough, 1917:49;
McDunnough, 1938:69.

Type Locality: "Colorado"

Mamestra griseata Smith, 1900:467; Dyar, 1902:156. NEW
SYNONYMY.

Polia griseata (Smith). Barnes and McDunnough, 1917:50.

Lacinipolia griseata (Smith). McDunnough, 1938:70.

Type Locality: "Colorado"

DESCRIPTION

Male. Palpi fuscous. Antennae serrate and bristled. Front smokey ash gray with dark spot near each eye. Collar concolorous with front below the transverse dark band. Thorax similar, but many scales gray tipped. Fore wing concolorous with thorax, maculation largely obscure but traceable. Basal line geminate, wavy, contrasting only by its pale filling, and extending down to basal dash. Antemedial line outwardly convex, with inner teeth on each vein, deep on 2A; geminate but inner line faint. Postmedial line nearly straight its length to

margin, denticulate on veins. Subterminal line largely indicated by pale, narrow line; straight to Cu_1 , then inwardly oblique to Cu_2 , and finally outwardly oblique to anal angle. Tendency for small dark triangles between veins on inner side of subterminal line. Reniform upright, with light outline and dark filling. Orbicular oblique, near size of reniform, top edge missing; dark outline followed by paler interior outline and darker filling. Claviform vague but present as dark outline. Fringe concolorous. Hind wing sordid, with faint discal lunule and only slightly paler toward base. Fringe cream with trace of median transverse band.

Female. Slightly darker than male and markings somewhat more contrasting. Antennae simple, pubescent.

TYPE MATERIAL

Lacinipolia naevia (Smith): Holotype, male (USNM); Label Data - Tag 1, "Colo., Bruce," Tag 2, "Type No. 4986," Tag 3, "Mamestra naevia, ♂ type, Sm."

Lacinipolia griseata (Smith): Lectotype, male (USNM); Label Data - Tag 1, "Hall Valley, Colo.," Tag 2, "Collection, J. B. Smith," Tag 3, "Mamestra griseata, ♂ type, Sm.," Tag 4, "Lectotype Mamestra griseata Sm. by E. L. Todd."

SPECIMENS EXAMINED (149)

COLORADO: Gilpin Co., Gilpin Gulch (1:LACM; Grand Co., Fraser (104:AMNH); Hinsdale Co., Lake City (2:AMNH); Jackson Co., Gould (6:AMNH); Larimer Co., Estes Park (1:LACM); Summit Co., Breckenridge (1:LACM); Teller Co., Florissant (34:LACM).

RECOGNITION CHARACTERS

Naevia is an obscurely marked species that is difficult to identify using wing maculation, especially in the female. The male, however, offers several excellent characters. Its serrate antennae narrows the selection considerably. The male genitalia is very close to that of delongi, but naevia is a much darker moth. Also, the ampulla of naevia is not nearly as large as that of delongi.

DISTRIBUTION

Colorado.

Lacinipolia lepidula (Smith)

(Figs. 6-7, 73-75, 240-241)

Mamestra lepidula Smith, 1887:463; Smith, 1891a:40;

Smith, 1891b:208; Dyar, 1902:151.

Polia lepidula (Smith). Barnes and McDunnough, 1917:50.

Lacinipolia lepidula (Smith). McDunnough, 1938:71.

Type Locality: "Texas"

Polia rubrifusa Hampson, 1905:85; Barnes and McDunnough,
1917:50.

Lacinipolia rubrifusa (Hampson). McDunnough, 1938:70.

Type Locality: "New Mexico"

DESCRIPTION

Male. Palpi, front, collar and thorax reddish brown. Antennae serrate and bristled. Abdomen somewhat fuscous. Fore wing more reddish than thorax. Basal faint, light brown. Antemedial line concave on upper half, and slight tooth on 2A. Postmedial line sinuate its length, not particularly denticulate, indicated largely by difference in shades and pale filled. Subterminal line distinct, denticulate, and marked by palest scales; lightest at anal angle and quite oblique from Cu₂ to anal angle. Reniform contrastingly lighter, largely indicated by

the difference in the filling and surrounding area, and very light in lower outward corner. Orbicular vague, not nearly as light as reniform. Claviform small, solid spot. Fringe concolorous. Hind wing much lighter than fore wing, and somewhat smokey throughout. Fringe cream, no trace of median band.

Female. Overall darker brown than male, otherwise quite similar. Antennae simple.

TYPE MATERIAL

Lacinipolia lepidula (Smith): Lectotype, male (USNM); Tag 1, "Texas," Tag 2, "Collection J.B. Smith," Tag 3, "Mamestra lepidula ♂ type Sm.," Tag 4, Type No. 147 USNM," Tag 5, "Lectotype Mamestra lepidula Sm. by E. L. Todd."

Lacinipolia rubrifusa (Hampson): I have before me a letter from I. W. Beresford Nye of the British Museum (N.H.) that states, "The B.M. (N.H.) has the holotype ♂ and 1 ♂, 2 ♀ Beulah, New Mexico, collected by Cockerell. Your female matches our series." In addition, there is a specimen in the USNM labeled "rubrifusa XT (checked type) Hamp. by J. H. McD. (J. H. McDunnough)." Tag 2, "Beulah, N. M., Cockerell July 28." Also, there is a specimen in the AMNH with the genitalia on slide Number 598 that has a label stating, "Polia rubrifusa Hampson. Compared holotype ♂. I.W.B. Nye det. 1964."

SPECIMENS EXAMINED (12)

ARIZONA: Coconino Co., Kaibab Lake (1:LACM), Parks (1:LACM); Gila Co., Tonto Creek Camp (2:LACM); Yavapai Co., Prescott (5:LACM); Co. undet., Oak Ck. Canyon (1:FMNH).

RECOGNITION CHARACTERS

This very pretty Lacinipolia is easily recognized. The male is immediately separated from all other species in this genus by the antennae. It is unlike any other species with serrate antennae. The females are deep reddish brown with a pale, contrasting reniform.

DISTRIBUTION

Arizona, New Mexico, Texas.

Lacinipolia luteimacula (Barnes and Benjamin)

(Figs. 76-78, 203, 242-243)

Polia luteimacula Barnes and Benjamin, 1925:16.

Lacinipolia luteimacula (Barnes and Benjamin). McDunnough,
1938:70.

Type Locality: "Arizona"

DESCRIPTION. Male. Palpi, front, collar and thorax concolorous, being dark ash gray. Abdomen slightly lighter. Antennae serrate and fasciculate. Fore wing concolorous with thorax, slight purplish tinge. Basal line obsolescent, wavy. Antemedial line largely a pale line, denticulate especially deep tooth on 2A. Post-medial line convex around reniform, then oblique to inner margin; dentate on veins. Subterminal line geminate, narrow, with scattered black scales along both edges. Areas of wing concolorous, subterminal area lightest. Reniform upright, dark thin outline, pale filled and top edge obsolete. Orbicular roundish, otherwise similar to reniform. Claviform distinct, solid dark filled. Fringe concolorous but paler basally. Hind wing uniformly fuscous, veins slightly darker. Fringe lighter with trace of median band.

Female. Similar to male but markings not as contrasting as male (the opposite is the case for most Lacinipolia).

TYPE MATERIAL

Lacinipolia luteimacula (Barnes and Benjamin):
Holotype, male (USNM); Label Data, Tag 1, "White Mts., Ariz.," Tag 2, "Barnes Collection," Tag 3, "Polia luteimacula, Holotype ♂, B & Benj." Allotype, female (USNM); Tag 1, "White Mts., Ariz.," Tag 2, "Polia luteimacula, Allotype ♀ B. & Benj." Paratypes, 8 males, 2 females (USNM); all labeled "White Mts., Ariz."

SPECIMENS EXAMINED (20)

ARIZONA: White Mts. (1:LACM), (11:USNM).

COLORADO: Teller Co., Florissant (8:LACM).

RECOGNITION CHARACTERS

Typically a difficult species to identify, especially the female. The males have serrate antennae which reduce the possibilities. The next best characters are those of genitalia. The male has a large, pointed ampulla and a nodulate upper corner of the sacculus, whereas the female

periostium is simple, narrow, and has a large ostium.

DISTRIBUTION

Arizona, Colorado.

Lacinipolia teligera (Morrison)

(Figs. 80, 179, 244-245)

Mamestra teligera Morrison, 1874b:215; Grote, 1882a:26 (as synonym of vicina); Smith, 1891a:41; Smith, 1891b:267; Dyar, 1902:155.

Polia teligera (Morrison). Barnes and McDunnough, 1917:51 (as synonym of vicina).

Lacinipolia teligera (Morrison). McDunnough, 1938:70 (as synonym of vicina).

Type Locality: "Texas"

Mamestra imbuna Smith, 1905:201; Forbes, 1954:89. NEW SYNONYMY.

Polia imbuna (Smith). Barnes and McDunnough, 1917:50.

Lacinipolia imbuna (Smith). McDunnough, 1938:70.

Type Locality: "Pennsylvania"

DESCRIPTION

Male. Palpi, front, collar and thorax dark ash gray. Collar with typical black transverse band. Abdomen concolorous. Antennae simple but may appear somewhat weakly serrate. Fore wing concolorous with thorax. Basal line faint but traceable and extending down to distinct, long basal dash. Antemedial line distinctly geminate, pale

filled, somewhat straight, yet wavy, its length. Post-medial line geminate, darkest along inner edge, pale filled, dentate on veins, tending to be convex around reniform and concave under. Subterminal narrow, pale with short black dashes between veins on its inner edge; becomes white spot, bordered by black at anal angle. Subterminal area lightest with each vein marked by dark scales. Reniform upright, constricted, long, thin with dark outline and slightly paler filled. Orbicular roundish, somewhat slightly oblique, dark outlined and paler filled. Claviform quite distinct, very long, extending from antemedial to postmedial lines and becoming very thin outwardly; dark outlined with concolorous filling. Fringe concolorous with trace of median band. Hind wing sordid, darkest along outer margin and veins.

Female. Similar to male, but slightly darker. Antennae distinctly simple.

TYPE MATERIAL

Lacinipolia teligera (Morrison): There is a specimen in the USNM labled - Tag 1, "1560," Tag 2 (indistinguishable)," Tag 3, "Ex. Collection Alf. F. Chalfield," Tag 4, "teligera Morr. X ♂ (checked male) type. Tepper Coll. [♀ type (Cambridge) ok] almost exact. Sure same species. J. McD.," Tag 5, "Barnes Collection."

Lacinipolia imbuna (Smith): Lectotype, male (AMNH);
Label Data - Tag 1, "Lucerne Co., Pa., April.", Tag 2,
"Collection, J. B. Smith," Tag 3, "Mamestra imbuna ♂
type, Sm.," Tag 4, "Lectotype Mamestra imbuna Sm. by
E. L. Todd."

SPECIMENS EXAMINED (6)

TEXAS: Kerr Co., Kerrville (3:LACM)

PENNSYLVANIA: Allegheny Co., Pittsburg (1:LACM).

RECOGNITION CHARACTERS

Other than the long, wedge-shaped claviform which helps reduce the possibilities, this species is superficially similar to many other Lacinipolia; however, the male and female genitalia are quite diagnostic. The male has a somewhat "U" shaped clasper with one arm of the "U" much larger than the other, and the female has a large periostium with a deep "V" shaped cleft.

DISTRIBUTION

Texas, Pennsylvania. It should be noted that this species surely occurs in many states other than the two mentioned above, but because of their similarity to other Lacinipolia, the need for genitalic examination, and lack of good diagnostic characters in the literature, many are misidentified.

Lacinipolia pensilis (Grote)

(Figs. 81-86, 166, 249-251)

Diathoecia pensilis Grote, 1874a:199.Mamestra pensilis (Grote). Grote, 1882a:26; Smith, 1891a:41; Smith, 1891b:268; Dyar, 1902:155; Forbes, 1954:89.Polia pensilis (Grote). Barnes and McDunnough, 1917:51.Lacinipolia pensilis (Grote). McDunnough, 1938:70.

Type Locality: "Victoria (British Columbia, Canada)"

Mamestra doira Strecker, 1898:7; Dyar, 1902:156. NEW

SYNONYMY.

Polia doira (Strecker). Barnes and McDunnough, 1917:51.Lacinipolia doira (Strecker). McDunnough, 1938:70 (as subspecies of vicina).

Type Locality: "Utah"

Mamestra ascula Smith, 1905b:257. NEW SYNONYMY.Polia ascula (Smith). Barnes and McDunnough, 1917:51 (as synonym of doira).Lacinipolia ascula (Smith). McDunnough, 1938:70 (as synonym of vicina).

Type Locality: "Utah"

DESCRIPTION

Male. Palpi gray mixed with dark brown. Front concolorous with typical dark bar between eyes. Collar

and thorax concolorous with palpi and collar with transverse median band. Antennae simple. Fore wing gray shaded with black. Ordinary lines geminate, pale filled. Basal line typical. Antemedial line oblique to cubitus vein, then broadly convex to inner margin with tooth on 2A. Postmedial line convex around reniform, then oblique to inner margin, denticulate on veins. Subterminal line distinct, denticulate. Median area sometimes with reddish brown overlay. Reniform large, kidney shaped, pale outline, contrasting. Orbicular oblique, otherwise similar to reniform. Claviform with black outline, filling concolorous with surrounding area. Fringe concolorous. Hind wing brownish along outer margin and veins; veins contrast. Much paler toward base. Fringe cream with trace of wavy band.

Female. Similar to male but losing much of the reddish tinge found in the male.

TYPE MATERIAL

Lacinipolia pensilis (Grote): There is a male type in the Museum of Comparative Zoology, Cambridge, Massachusetts; however, specific identification was made by the examination of a specimen in the USNM that had been compared to type by J. H. McDunnough. This

specimen was labeled as follows: Tag 1, "22-8-11," Tag 2, "Duncans Vanc. Is. Hanham," Tag 3, "pensilis Grt., XT ♂ type (checked type male). Forewings exact J. McD. (J. H. McDunnough)," Tag 4, "Barnes Collection." The original description is quite complete also.

Lacinipolia ascula (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "IX-14-4," Tag 2, "J. B. Smith Collection, Rutgers," Tag 3, "Mamestra ascula ♂ type Smith," Tag 4, "Lectotype Mamestra ascula Sm. by E. L. Todd."

SPECIMENS EXAMINED (385)

CALIFORNIA: Inyo Co., Independence Cr. (2:LACM); Westgard Pass (1:LACM); Lake Co., Anderson Sps. (1:LACM), (2:FMNH); Lake Arrowhead (4:LACM); Lassen Co., Blue Lake (2:LACM); Los Angeles Co., Mint Canyon (6:LACM), Valyermo (2:LACM); Mono Co., Cottonwood (41:LACM); Placer Co., Tahoe City (1:LACM); Riverside Co., Idyllwild (9:LACM); San Bernardino Co., Fallsvale (9:LACM), New York Mts. (12:LACM); Santa Cruz Co., Los Gatos (27:LACM); Sierra Co., Sierra City (1:LACM); Co. undet., San Gabriel Mts. (15:LACM); Lehman Creek, Snake Range (20:LACM).

IDAHO: Shoshone Co., Wallace (158:LACM), (1:FMNH).

NEVADA: Thomas Co., Ruby Mts., (1:LACM).

OREGON: Wallowa Co., Joseph (2:LACM).

UTAH: Juab Co., Eureka (47:LACM); Co. undet.,
Stockton (21:LACM), Dividend (2:LACM).

RECOGNITION CHARACTERS

This species is highly variable. Specimens from Idaho are darkest with some males having a reddish tinge (Fig. 249), largely in the median area; however, the reddish tinge is lost in the California specimens (Fig. 250). Lightest by far are those specimens from Utah. Not only are the fore wings lacking contrast, but the hind wings are immaculate in the male (Fig. 251) and nearly so in the female. The use of wing maculation may cause identification of pensilis to be quite difficult; however, both the male and female genitalia exhibit good characters for their separation. The tip of the aedaeagus has spur- or claw-like processes (Figs. 81-86), and the periostium is asymmetrical in having a large lateral flat lobe (Fig. 166).

DISTRIBUTION

California, Idaho, Nevada, Oregon, Utah.

Lacinipolia aileenae New Species

(Figs. 79, 246-248)

DESCRIPTION

Male. Palpi fuscous, much lighter on inner lateral sides. Front luteous with dark bar extending between eyes. Collar and thorax admixture of gray, silvery and yellowish scales. Trace of transverse median band on collar. Antennae simple. Fore wing concolorous with thorax. Basal line obsolescent, but traceable, denticulate. Antemedial line geminate, pale filled, nearly straight to orbicular, then convex under orbicular to inner margin with tooth on 2A. Postmedial line geminate, pale filled, sinuate its length, obsolescent on upper half and concave under reniform. Reniform black outlined, top edge obsolescent, contrasting pale filling, not noticeably constricted. Orbicular oblique, otherwise similar to reniform. Claviform long, extending from antemedial to postmedial lines; black outlined. Area between antemedial and postmedial lines relatively narrow immediately above inner margin. Basal dash long and distinct. Subterminal area lightest except for dark patch that extends from below Cu_2 to 2A and from

postmedial line to outer margin. Fringe concolorous. Hind wing sordid, gradually paler toward base; veins contrasting with dark scales. Fringe cream with median wavy band.

Female. Similar to male, but slightly darker in coloration, causing markings to contrast somewhat.

TYPE MATERIAL

Lacinipolia aileenae New Species: Holotype, male (LACM); Label Data - Tag 1, "May 23, 1962, South Fork, Cave City Camp, Chiricahua Mts., Cochise Co., Ariz., Lloyd M. Martin," Tag 2, "Genitalia mounted on slide No. 570, Lloyd M. Martin," Tag 3, "Holotype L. aileenae C. L. Selman." Allotype, female (LACM); Label Data - Tag 1, "May 21, 1962, South Fork, Cave City Camp, Chiricahua Mts., Cochise Co., Ariz., Lloyd M. Martin," Tag 2, "Genitalia mounted on slide No. 572, Lloyd M. Martin," Tag 3, "Allotype L. aileenae C. L. Selman." Paratypes: 2 males, 2 females; Label Data - Tag 1, "May 21, 1962, South Fork, Cave City Camp, Chiricahua Mts., Cochise Co., Ariz., Lloyd M. Martin," Tag 2, "Paratype L. aileenae C. L. Selman." All types will be deposited in the LACM.

SPECIMENS EXAMINED (34)

ARIZONA: Cochise Co., Chiricahua Mts. (25:LACM);
Santa Cruz Co., Pena Blanca (1:LACM).

RECOGNITION CHARACTERS

The black patch at the outer angle is quite distinctive and provides an excellent character from which to make an identification. No other Lacinipolia that superficially resembles aileenae has this black patch.

DISTRIBUTION

Arizona

Lacinipolia vicina (Grote)
(Figs. 89-93, 178, 252-255)

Mamestra vicina Grote, 1874b:156; Grote, 1882a:26;
Smith, 1891a:41; Smith, 1891b:267; Dyar, 1902:155;
Forbes, 1954:89.

Polia vicina (Grote). Barnes and McDunnough, 1917:51.

Lacinipolia vicina (Grote). McDunnough, 1938:70.

Type Locality: "Massachusetts"

Mamestra sareta Smith, 1906:229; Forbes, 1954:89 (as
race of vicina). NEW SYNONYMY

Polia sareta (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia sareta (Smith). McDunnough, 1938:70 (as
supspecies of vicina).

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi dark ash gray. Front light ash gray
with bar extending between eyes. Collar and thorax
concolorous with palpi, with former having dark trans-
verse median band. Antennae simple, pubescent. Fore
wing concolorous with thorax. Basal line indistinct,
denticulate. Antemedial line convex its length,

geminate, pale filled, weakly toothed on some veins. Postmedial line similar, convex around reniform, then oblique to inner margin; deep outward tooth on 2A. Subterminal line irregular, irrorate, nearly parallel to Cu_2 , then a dark spot with whitish filling and oblique to anal angle. Median area darkest usually with slight reddish-brown tinge. Reniform upright, kidney-shaped, black outline with top portion obsolete, paler filled. Orbicular distinctly oblique, otherwise similar to reniform. Claviform long, extending from antemedial to postmedial lines, black outline. Basal dash thin, long. Fringe concolorous. Hind wing white with sordid scales along outer margin and veins. Fringe whitish with transverse median band.

Female. Similar to male but distinctly darker, especially noticeable on hind wing which is sordid throughout and gets only slightly paler at base.

TYPE MATERIAL

Lacinipolia vicina (Grote): I have not seen the type; however, Mr. Grote's original description of it is quite adequate. Also, there is a specimen in the USNM that corresponds to what I call "vicina." It is

labeled: Tag 1, "Mich.," Tag 2, "vicina Grt. XT ♀
(checked type female) OK but our spec. has t.a. & t.p.
lines more approached inwardly," Tag 3, "Barnes
Collection."

Lacinipolia sareta (Smith): Lectotype, male (AMNH);
Label Data - Tag 1, "Yavapai Co., X-3, Ariz," Tag 2,
"Minnehaha," Tag 3, "J. B. Smith Collection, Rutgers,"
Tag 4, "Mamestra sareta, ♂ type, Sm.," Tag 5, "Lectotype
Mamestra sareta Sm. by E. L. Todd."

SPECIMENS EXAMINED (360)

ARIZONA: Cochise Co., Chiricahua Mts. (119:LACM);
Gila Co., Mogolion Rim (19:LACM); Payson (8:LACM), Pine
(6:LACM), Seneca (2:LACM); Mojave Co., Hualpai Mts.
(7:LACM); Santa Cruz Co., Santa Rita Mts. (5:LACM);
Co. undet. Lyston (1:FMNH), Paradise (1:FMNH), White
Mts. (2:LACM).

CALIFORNIA: Los Angeles Co. (22:LACM); San Bernardino
Co., Fawnskin (4:MSUC); San Diego Co., San Diego (2:LACM);
Co. undet., San Bernardino Mts. (2:LACM).

COLORADO: Alamose Co. (2:LACM); Boulder Co.,
Boulder (2:FMNH); Teller Co., Florissant (45:LACM);
Co. undet., Maysville (4:FMNH), Salida (3:FMNH).

INDIANA: Co. undet., Hessville (2:FMNH).

MICHIGAN: Allegan Co. (1:MSUC), Fennville (5:FMNH);
Antrim Co. (1:MSUC); Benzie Co. (18:MSUC); Cheboygan
Co. (1:MSUC); Muskegon Co. (3:MSUC); Oakland Co.
 (5:MSUC); Oceana Co. (13:MSUC); Otsego Co. (27:MSUC).

NEW MEXICO: Sandoval Co., Jemez Springs (6:LACM).

NEVADA: Clark Co., Mt. Charleston (3:LACM); Elko
Co., Ruby Mts. (17:LACM); Nye Co., Ichthyosaur St. Park
 (1:LACM); White Pine Co., Mt. Wheeler (5:LACM).

PENNSYLVANIA: Allegheny Co., Pittsburg (5:CMIC),
 Swissvale (2:CMIC).

TEXAS: Co. undet., Alpine (1:LACM).

RECOGNITION CHARACTERS

Superficially identical to acutipennis. The long claviform separates vicina and acutipennis from most Lacinipolia; however, a more difficult task is their separation from each other. The most valuable characters given to separate vicina and acutipennis are given under "Recognition Characters" of acutipennis.

DISTRIBUTION

Widespread over most the the United States.

Lacinipolia acutipennis (Grote)

(Figs. 87-88, 177, 256-257)

Mamestra acutipennis Grote, 1880:214; Grote, 1882a:26;
Smith, 1891a:41 (as synonym of vicina); Smith,
1891b: 267 (as synonym of vicina); Dyar, 1902:155
(as synonym of vicina); Forbes, 1954:89 (as race
of vicina).

Polia acutipennis (Grote). Barnes and McDunnough,
1917:51.

Lacinipolia acutipennis (Grote). McDunnough, 1938:70
(as subspecies of vicina).

Type Locality: "Nevada"

DESCRIPTION

This species resembles vicina almost identically;
therefore, it seems redundant to repeat the description
given under vicina. The most noticeable differences
between vicina and acutipennis are (1) acutipennis
lacks the reddish brown tinge in the median area that
is found in many vicina, (2) acutipennis averages
slightly larger than vicina and (3) the antemedial and
postmedial lines of acutipennis are slightly farther
apart under reniform than in vicina.

Female. As noted for male.

TYPE MATERIAL

I have not seen the type; however, there is a specimen in the USNM labeled "Mamestra acutipennis Grt." by A. R. Grote, and this, along with his original description, leaves no doubt as to its identity.

SPECIMENS EXAMINED (23)

CALIFORNIA: Lake Co., Anderson Sprs. (12:LACM), (2:FMNH); Los Angeles Co., Bouguet Canyon (2:LACM), Buckhorn (3:LACM), Glendale (1:LACM), Mojave Desert (1:LACM); Kern Co., Greenhorn Mts. (1:LACM); Riverside Co., Gavalon Hills (1:LACM).

RECOGNITION CHARACTERS

In addition to the remarks found in the descriptions of vicina and acutipennis, the following differences occur in the male and female genitalia: Male - the clasper of acutipennis is sinuate its length and appears as a single structure, while the clasper of vicina has a lateral finger-like process and its overall design is not sinuate. The aedaeagus of acutipennis has a prominent bulge below a subapical, spur-like process which is lacking in vicina. Female - the sclerotization of the periostium of acutipennis

is large, rough edged, and broadly rounded on top; however, the periostium of vicina is slightly smaller, smooth edged, and somewhat pointed (although not sharply) on top.

DISTRIBUTION

California, Nevada.

Lacinipolia erecta (Walker)

(Figs. 94-95, 176, 258-260)

Celaena erecta Walker, 1857:264; Smith, 1891a:43.

Mamestra erecta (Walker). Dyar, 1902:155; Forbes,
1954:89.

Polia erecta (Walker). Barnes and McDunnough, 1917:51.

Lacinipolia erecta (Walker). McDunnough, 1938:71.

Type Locality: "East Florida"

Perigea? constipata Walker, 1857:734.

Mamestra constipata (Walker). Dyar, 1902:155 (as
synonym of erecta).

Polia constipata (Walker). Barnes and McDunnough,
1917:51 (as synonym of erecta).

Lacinipolia constipata (Walker). McDunnough, 1938:71
(as synonym of erecta).

Type Locality: None Given

Perigrapha innexa Grote, 1875b:123.

Mamestra innexa (Grote). Grote, 1882a:26; Smith, 1891a:
41; Smith, 1891b:263; Dyar, 1902:155 (as synonym of
erecta).

Polia innexa (Grote). Barnes and McDunnough, 1917:51
(as synonym of erecta).

Lacinipolia innexa (Grote). McDunnough, 1938:71 (as synonym of erecta).

Type Locality: "Texas"

DESCRIPTION

Male. Palpi dull reddish brown. Antennae simple, pubescent. Front, collar, thorax and abdomen concolorous with palpi, and without the usual dark markings. Fore wing concolorous with thorax and all markings indicated by pale lines, which are fine and single. Basal line nearly straight. Antemedial line oblique towards orbicular, then inwardly oblique to Cu-M vein where it follows vein short distance outward, then concave to inner margin, with distinct tooth on 2A. Postmedial line nearly straight its length, with slight concavity between M_3 and Cu_2 . Subterminal line even, with inward tooth on Cu_2 . Area inside subterminal line lightest, outside darkest. Reniform outlined with pale scales, upright, darkest scales on lower half. Orbicular roundish, but outline may be slightly wavy around. Claviform obsolete. No dark dashes. Fringe concolorous. Hind wing whitish with dull brown scales along outer margin and veins. Fringe white with broad median band.

Female. Similar to male but darker. Ordinary lines contrast more than male's. Hind wing dusky, paler at base.

TYPE MATERIAL

The type of erecta is in the British Museum and is pictured by Walker (1857). The illustration, along with the original description, easily identifies this uniquely marked Lacinipolia. Also, the type of Mamestra constipata Walker and Perigrapha innexa Grote have not been examined, but I have studied the original descriptions of both and I accept and agree with Dyar (1902) and Barnes and McDunnough (1917) that they are synonyms of erecta.

SPECIMENS EXAMINED (127)

FLORIDA: Alachua Co. (1:LACM), Gainesville (5:LACM); Jefferson Co., Monticello (1:LACM); Marion Co., Ocala (1:LACM).

MISSISSIPPI: Claiborne Co., Rocky Springs (1:BKMC); Hinds Co., Jackson (1:BKMC); Jefferson Co., Lorman, A. & M. College (3:BKMC); Warren Co., Bovina (1:BKMC).

TEXAS: Bastrop Co., Bastrop State Park (5:LACM); Brown Co., Lake Brownwood (1:LACM); Cameron Co., Brownsville (4:LACM); Harris Co., Spring (5:LACM), Houston (2:LACM); Hidalgo Co., Santa Ana Wildlife Refuge (12:LACM); Kendall Co. (1:CMIC); Kerr Co., Kerrville (3:LACM); Milan Co., (1:MSUC); San Patricio Co., Welder Wildlife Foundation Ref. 7 mi. n.e. of Sinton (55:LACM); Randall Co.,

Palo Duro (16:LACM); Uvalde Co., Uvalde (2:LACM);
Willacy Co., Raymondville (6:LACM).

RECOGNITION CHARACTERS

This species is quite unique among the Lacinipolia in that the postmedial line is distinctly single, indicated by pale scales and nearly straight its length; whereas nearly all other Lacinipolia have the postmedial line curved, sinuate, geminate or denticulate with some dark scales. The only species that erecta resembles is triplehorni (note "Recognition Characters" under triplehorni).

DISTRIBUTION

Florida, Mississippi, Texas.

Lacinipolia triplehorni New Species

(Figs. 96-97, 169, 261-262)

DESCRIPTION

Male. Palpi yellowish brown. Antennae simple, pubescent. Front, collar, thorax and abdomen yellowish brown with only a slight sprinkling of a few dark scales. Collar with trace of transverse median band. Fore wing concolorous with markings hardly traceable, and like those found in erecta but much lighter. Hind wing nearly immaculate with only trace of a few yellowish brown scales along outer margin and veins.

Female. Much darker than male. Most lines traceable. Markings as in erecta except as noted under recognition characters below. Hind wing white with yellowish brown along outer margin and veins.

TYPE MATERIAL

Lacinipolia triplehorni New Species: Holotype, male (LACM); Label Data - Tag 1, "Pima Co., Ariz., Mar. 15, 1924," Tag 2, "Genitalia mounted on slide No. 639, Lloyd M. Martin," Tag 3, "Holotype L. triplehorni C. L. Selman." Allotype, female (LACM); Label Data - Tag 1, "R. H. Reid, Sept. 13, 1950, Madera Canyon Santa Rita Mts., Pima Co., Ariz., C. W. Kirkwood," Tag 2, "Genitalia mounted on

slide no. 642, Lloyd M. Martin," Tag 3, "Allotype L. triplehorni C. L. Selman." Both types will be deposited in the LACM.

SPECIMENS EXAMINED (5)

ARIZONA: Pima Co. (2:LACM), Santa Rita Mts. (3:LACM).

RECOGNITION CHARACTERS

The male of triplehorni is much lighter than the male or female of erecta, but otherwise quite similar. The markings (traceable only in female) differ from those of erecta as follows: (1) The subterminal line is more wavy in triplehorni. (2) The postmedial line is slightly more sinuate in triplehorni, and the postmedial line of erecta usually touches or nearly touches the reniform at its lower edge, but it is distinctly separate from the reniform in triplehorni. Even with these slight differences, it is best to examine the male and female genitalia. The clasper of triplehorni is large and robust, whereas the clasper of erecta is thin and narrow. Also, the periostium of triplehorni has two symmetrical, lateral expansions, but this structure in erecta is simple and rim-like.

DISTRIBUTION

Arizona.

Lacinipolia cuneata (Grote)

(Figs. 98-100, 263-264)

Mamestra cuneata Grote, 1873a:139; Grote, 1882a:27;
Smith, 1891a:41; Smith, 1891b:261; Dyar, 1902:155;
Forbes, 1954:89.

Polia cuneata (Grote). Barnes and McDunnough, 1917:50.

Lacinipolia cuneata (Grote). McDunnough, 1938:70.

Type Locality: "California"

Mamestra gertana Smith, 1913:273-274 NEW SYNONYMY

Polia gertana (Smith). Barnes and McDunnough, 1917:50
(as subspecies of cuneata).

Lacinipolia gertana (Smith). McDunnough, 1938:70 (as
subspecies of cuneata).

Type Locality: "California"

Polia basirufa Strand (described as abberation of
cuneata), 1916:28. NEW SYNONYMY

Lacinipolia basirufa (Strand). McDunnough, 1938:70 (as
aberration of cuneata).

Type Locality: None given

Polia rubicunda Strand (described as aberration of
cuneata), 1916:28. NEW SYNONYMY.

Lacinipolia rubicunda (Strand). McDunnough, 1938:70
(as aberration of cuneata).

Type Locality: None given

DESCRIPTION

Male. Palpi dark ash gray. Front lighter ash gray with dark bar between eyes, with slight median break. Collar ash gray with dark transverse median band followed by light apical band. Thorax darker ash gray than collar. Fore wing concolorous with thorax. Ordinary lines geminate and pale filled. Basal line denticulate, extending down to lunate basal dash. Antemedial line nearly straight its length, somewhat wavy. Postmedial line sinuate, but denticulate on veins, especially large tooth on 2A. Subterminal line indicated largely by a difference in shades, wavy, marked with yellow scales and yellow spot bordered with black above anal angle. Subterminal area somewhat silvery gray, and distinctively lightest area of wing. Terminal line indicated by black wedges its length. Reniform irregular, upright, light outline followed by outline with dark filling, variably distinct. Orbicular roundish but somewhat oblique, filling concolorous with reniform. Claviform concolorous and distinctively dark outlined. Fringe concolorous. Hind wing uniformly dark fuscous. Fringe slightly lighter.

Female. Overall darker than male and markings more contrasting. Hind wing quite dark, uniform.

TYPE MATERIAL

Lacinipolia cuneata (Grote): The type is in the British Museum; however, J. H. McDunnough examined the type and labeled a specimen in the USNM as follows: Tag 1, "San Francisco, Cal.," Tag 2, "cuneata Grt. XT (checked type), J. McD. (J. H. McDunnough)."

Lacinipolia gertana (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "San Diego, Cal. III," Tag 2, J. B. Smith Collection, Rutgers," Tag 3, Mamestra gertana ♂ type, Sm.," Tag 4, "Lectotype Mamestra gertana Sm. by E. L. Todd."

SPECIMENS EXAMINED (94)

CALIFORNIA: "Costa" (Contra Costa Co.) (3:LACM); Lake Co., (1:LACM); Los Angeles Co. (2:LACM), Glendale (1:LACM), Los Angeles (2:LACM), Newhall (1:LACM), Santa Catalina Island, Avalon (1:LACM), Santa Monica (4:LACM), Topanga Canyon (1:LACM); Marin Co. (2:LACM); Napa Co. (1:LACM); San Diego Co., San Diego (1:LACM); Santa Clara Co. (9:LACM); Sonoma Co. (2:LACM); Trinity Co. (2:LACM); Co. undet. Santa Rosa Island (1:LACM).

CANADA: British Columbia, Alberni (2:LACM); Duncans (2:LACM); Vancouver (2:LACM); Vancouver Island (21:LACM); Victoria (6:LACM).

OREGON: Benton Co. (7:LACM), Corvallis (8:LACM); Clatsop Co. (1:MSUC); Wallawa Co. (1:LACM).

TEXAS: Co. undet., Freestone (1:LACM)

WASHINGTON: Snohomish Co., Edmonds (2:LACM); Co. undet., Olympic Mts. (8:LACM).

RECOGNITION CHARACTERS

Cuneata has a distinct black patch at the anal angle with some central yellow scales, and its ordinary spots are larger than the typical Lacinipolia. This species is not easily confused with others in this genus.

DISTRIBUTION

California, Oregon, Texas, Washington, British Columbia (Canada).

Lacinipolia patalis (Grote)

(Figs. 101-102, 104, 265-267)

Xylomiges patalis Grote, 1873b:114; Grote, 1882a:31;

Smith, 1891a:50; Dyar, 1902:158.

Xylomyges patalis (Grote). Barnes and McDunnough,

1917:53.

Lacinipolia patalis (Grote). McDunnough, 1938:71.

Type Locality: "California"

Xylomiges fletcheri Grote, 1888:130; Smith, 1891a:50;

(as synonym of patalis). Dyar, 1902:158 (as
synonym of patalis).

Xylomyges fletcheri (Grote). Barnes and McDunnough,

1917:53 (as synonym of patalis).

Lacinipolia fletcheri (Grote). McDunnough, 1938:71

(as subspecies of patalis).

Type Locality: "Vancouver, B. C."

DESCRIPTION

Male. Palpi luteous, somewhat lighter inside.

Antennae simple. Front, collar and thorax lighter than palpi, and silvery gray in coloration. Front with darker spot near each eye and collar with only trace of transverse median band. Abdomen and fore wing concolorous with thorax. Most lines blending into ground of wing,

some geminate. The basal line nearly traceable but only as a shade. Antemedial line outwardly convex its length, dentate on veins, especially large inward tooth on 2A. Postmedial oblique but straight its length, dentate on veins. Subterminal line indicated by few blackish wedges between veins, lowest wedge on 2A. Reniform obsolescent, kidney shaped, part of outline on outer edge. Orbicular barely traceable as roundish, oblique spot. Claviform roundish, dark outlined, inner line obsolete, concolorous. No contrasting areas. Basal dash distinct, long and narrow. Fringe concolorous. Hind wing cream, with sordid scales along outer margin and veins. Fringe cream, no trace of median band but sordid near base.

Female. Markings similar to male but overall darker and more evident.

TYPE MATERIAL

Lacinipolia patalis (Grote): I have not seen the type; however, the original description easily identifies this species even though the darkness of different specimens may vary; also, there is a specimen in the USNM labeled: Tag 1, "Middle Cal.," "Tag 2, patalis Grt. XT (checked type), better marked than type J. McD."

Lacinipolia fletcheri (Grote): A. R. Grote (1888) described a dark form of patalis as a distinct species. This was recognized by Smith (1891a) and all later authors as a synonym of patalis. I am following their example.

SPECIMENS EXAMINED (85)

CALIFORNIA: Alameda Co., San Leandro (1:LACM), Berkley (3:LACM); Humboldt Co., Williams State Park (1:LACM); Los Angeles Co., Beverly Hills (7:LACM); Eagle Rock (4:LACM), Glendale (7:LACM), Pearblossom (1:LACM), Santa Monica (5:LACM), Verdugo (6:LACM); Marin Co., Inverness (3:LACM); Santa Barbara Co., Summerland (2:LACM); San Bernardino Co., Upland (6:LACM); Santa Clara Co., Alma (6:LACM); Santa Cruz Co., Santa Cruz (3:LACM); San Diego Co., San Diego (3:LACM); San Francisco Co. (1:LACM); San Luis Obispo Co. (1:LACM); Sonoma Co., Santa Rosa (1:LACM), Petaluma (3:LACM), Guerneville (1:LACM); Co. undet., Parkside (1:LACM), Anacapa Island (10:LACM), Santa Cruz Island (3:LACM).

OREGON: Lincoln Co. (1:MSUC); Benton Co. (1:LACM).

CANADA: British Columbia, Vancouver Island, Wellington (4:LACM).

RECOGNITION CHARACTERS

Although the description above will identify most

United States specimens of patalis, some specimens, especially from Vancouver, B. C., are quite dark and much more prominently marked. When much more study has been done on this species, the darker form may be found to be a good subspecies. The genitalia, however, are identical.

When the specimen is clearly marked, as is the case in some British Columbia specimens, it is easily identified because the bottom of the reniform is connected by a bridge to the orbicular. If one examines the genitalia it is found that the clasper of the male is quite long, narrow and pointed apically, and the periostium of the female has a slight median cleft.

DISTRIBUTION

California, Oregon, Canada.

Lacinipolia sharonae New Species

(Figs. 118, 268-269)

Type Locality: Arizona

DESCRIPTION

Male. Palpi dark ash gray, only slightly lighter inside laterally, but tip of third segment distinctly lightest. Antennae simple, pubescent. Front, collar and thorax ash gray with some scales silvery tipped. Basal half of collar with yellowish tinge; above transverse median band silvery. Abdomen near same shade to slightly lighter. Fore wing concolorous with thorax, and overall tinge is silvery. Lines geminate and pale filled. Basal line barely traceable, wavy. Antemedial line oblique to Cu_2 , then outwardly convex to inner margin, even and not denticulate. Postmedial line sinuate its length, not denticulate. Median area distinctly darkest. Reniform distinct, contrasting, oblong with dark outlines and pale filled. The pale filling of reniform appears to be lightest area of wing. Orbicular oblique, roundish, dark outline, filling not contrasting. Claviform concolorous, dark outlined. Basal dash short, broad. Fringe concolorous.

Hind wing sordid, only slightly lighter toward base; veins slightly darker. Fringe concolorous with traceable median band.

Female. Distinctly darker than male. Differing from male in that inner third of wing concolorous with median area and area beyond postmedial line contrastingly lightest. Reniform with dark filling followed by pale, then dark, outlines. Orbicular dark outlined and filling concolorous with median area. Claviform with only trace of narrow outline. Hind wing slightly darker in female and basal half of fringe is sordid.

TYPE MATERIAL

Lacinipolia sharonae New Species: Holotype, male (LACM); Label Data - Tag 1, "June 22, 1957, Christopher Creek, Mogolion Rim, Gila Co., Ariz., El. 5800ft.," Tag 2, "Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Genitalia mounted on slide No. 61-72, Lloyd M. Martin," Tag 4, "Holotype L. sharonae C. L. Selman, '75." Allotype, female (LACM); Label Data - Tag 1, "June 17, 1957, Christopher Creek, Mogolion Rim, Gila Co., Ariz., El. 5800ft.," Tag 2, "Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Genitalia mounted on slide N. 682,

Lloyd M. Martin," Tag 4, "Allotype L. sharonae C. L. Selman, '75." Paratypes (CNCI): 1 male; Label Data - "June 22, 1957, Christopher Creek, Mogolion Rim, Gila Co. Ariz., El.5800ft.," Tag 2, "Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Paratype L. sharonae C. L. Selman, '75." 1 male; Label Data - "June 17, 1957 (all other data and tags same as first paratype)." 1 female; Label Data - "June 17, 1957 (all other data and tags same as first paratype)." 1 female; Label Data - (All data and tags same as first paratype). The holotype and allotype will be deposited in the LACM, but the paratypes will be found in the CNCI.

SPECIMENS EXAMINED (16)

ARIZONA: Cochise Co., Huachuca Mts. (1:CNCI), Chiricahua Mts. (1:CNCI), Coconino Co., Williams (1:CNCI); Gila Co., Christopher Creek (2:LACM), (8:CNCI); Tonto Creek (3:LACM).

RECOGNITION CHARACTERS

Sharonae is superficially quite similar to olivacea, comis, davena, rectilinea and bucketti; however, only sharonae and bucketti have the silvery subterminal area of the fore wing. The clasper of sharonae and bucketti will

easily separate these two in that the clasper of sharonae is uniformly thick throughout its length while the clasper of bucketti is tapered to a point.

DISTRIBUTION

Arizona.

Lacinipolia bucketti New Species

(Figs. 120, 278, 279)

Type Locality: "California"

DESCRIPTION

Male. Palpi ash gray with third segment lightest. Antennae simple. Front concolorous with palpi with dark band extending between eyes. Collar and thorax much lighter than palpi and front, although basal half of collar nearly concolorous with front and narrow transverse median band. Many scales are silvery tipped. Fore wing and abdomen concolorous with thorax. Most lines and spots geminate, pale filled, traceable but not contrasting. Basal line typical of genus. Antemedial line oblique to Cu-M vein, then outwardly convex to inner margin with slight tooth on 2A. Postmedial line sinuate, denticulate. Reniform with dark outline and light, silvery filled. Orbicular oblique, roundish, dark outline, filling not contrasting but slightly lighter than claviform. Claviform concolorous, dark outlined. Subterminal line indicated by a difference in shade only. Median area darkest. Basal area and subterminal areas silvery. Basal dash short but

distinct. Fringe concolorous. Hind wing uniformly dull luteous. A lunule at end of discal cell. Veins slightly darker. Fringe light with trace of transverse median band.

Female. The median area is not contrasting dark as in female. Overall slightly darker than male. Reniform with relatively dark filling. Otherwise similar to male.

TYPE MATERIAL

Lacinipolia bucketti New Species: Holotype, male (LACM); Label Data - Tag 1, "4 mi. E. Pt. Arena, Mend. Co., 7-558, Cal. W. R. Bauer and J. S. Buckett," Tag 2, "Collection of W. R. Bauer and J. S. Buckett," Tag 3, "Genitalia mounted on slide No. 61-410, Lloyd M. Martin," Tag 4, "Holotype L. bucketti C. L. Selman, '75." Allotype, female (LACM); Label Data - Tag 1, "4 mi. E. Pt. Arena, Mend. Co., 7-18-58, Cal., W. R. Bauer and J.S. Buckett," Tag 2, "Collection of W. R. Bauer and J. S. Buckett," Tag 3, "Genitalia mounted on slide No. 772, Lloyd M. Martin," Tag 4, "Allotype L. bucketti C. L. Selman, '75." Both types will be deposited in the LACM.

SPECIMENS EXAMINED (2)

CALIFORNIA: Mend. Co. (Mendocino Co.), Pt. Arena
(2:LACM).

RECOGNITION CHARACTERS

Superficially resembles a small sharonae, but median area is not as dark as that of sharonae. Maculation looks typical or similar to olivacea but the silvery tinge will easily separate it. (See comments under "Recognition Characters" of sharonae.)

DISTRIBUTION

California.

Lacinipolia baueri New Species

(Figs. 121, 280-281)

Type Locality: California

DESCRIPTION

Male. Palpi light reddish brown. Antennae simple. Front, collar and thorax concolorous with thorax appearing only slightly lighter. Trace of median band on collar. Fore wing concolorous with thorax and ordinary lines indicated by shades only; no dark scales. Basal line not traceable. Antemedial line nearly straight to 2A, then inwardly oblique, slightly toothed on some veins. Postmedial line sinuate its length, slightly denticulate. Subterminal line wavy. Reniform upright and indicated largely by the paler filling. Orbicular and claviform obsolescent. Median area distinctly darkest. Basal dash obsolescent. Fringe concolorous. Hind wing same shade as fore wing but slightly paler toward base.

Female. Slightly darker than male, causing maculation to be more contrasting. Reniform more prominent, with white outline. Orbicular slightly traceable, but claviform obsolete. Basal line stronger and wavy. Otherwise, similar to male.

TYPE MATERIAL

Lacinipolia baueri New Species: Holotype, male (LACM); Label Data - Tag 1, "McClure Beach, Point Rayea Pen, Marin Co., Cal. VI-15-1960," Tag 2, "Florescent blacklight," Tag 3, "J. S. Buckett, Collector," Tag 4, "Collection of W. R. Bauer and J. S. Buckett," Tag 5, "Genitalia mounted on slide No. 61-411, Lloyd M. Martin," Tag 6, "Holotype L. baueri C. L. Selman, '75." Allotype, female (LACM): Label Data - Tag 1, "McClure Beach, Point Rayea Pen, Marin Co., Cal., 6-17-58, W. R. Bauer, J. S. Buckett," Tag 2, "Collection of W. R. Bauer and J. S. Buckett," Tag 3, "Genitalia mounted on slide no. 770, Lloyd M. Martin," Tag 4, "Allotype L. baueri C. L. Selman, '75." Both types will be deposited in the LACM.

SPECIMENS EXAMINED (2)

CALIFORNIA: Marin Co., McClure Beach (2:LACM).

RECOGNITION CHARACTERS

Although the maculation of the fore wings is quite similar to several other Lacinipolia, especially those species close to olivacea, the coloration of the wings (light reddish brown throughout) and the lack of any blackish scales along the ordinary lines will easily separate it.

DISTRIBUTION

California.

Lacinipolia olivacea (Morrison)

(Figs. 17, 103, 105-106, 108-111, 282-291)

Mamestra olivacea Morrison, 1874a:143; Grote, 1882a:27;
Smith 1891a:41; Smith, 1891b:254; Dyar, 1902:154;
Forbes, 1954:91.

Polia olivacea (Morrison). Barnes and McDunnough, 1917:51.

Lacinipolia olivacea (Morrison). McDunnough, 1938:71.

Type Locality: "New York, New Hampshire"

Mamestra obscurior Smith, 1887:465 (as variation of
olivacea); Smith, 1891a:41 (as variation of olivacea);
Smith, 1891b:254 (as variation of olivacea); Dyar,
1902:154 (as subspecies of olivacea); Forbes,
1954:91 (as aberration of olivacea).

Polia obscurior (Smith). Barnes and McDunnough, 1917:51
(as subspecies of olivacea).

Lacinipolia obscurior (Smith). McDunnough, 1938:71 (as
synonym of olivacea).

Type Locality: "Maine"

Mamestra vau-media Smith, 1887:466; Smith, 1891a:41;
Smith, 1891b:255; Dyar, 1902:154. NEW SYNONYMY.

Polia vau-media (Smith). Barnes and McDunnough, 1917:54
(as subspecies of olivacea).

Lacinipolia vau-media (Smith). McDunnough, 1938:71 (as
subspecies of olivacea).

Type Locality: Colorado

Mamestra altua Smith, 1901:236 (as synonym of olivacea).

Polia altua (Smith). Barnes and McDunnough, 1917:51 (as subspecies of olivacea.)

Lacinipolia altua (Smith). McDunnough, 1938:71 (as subspecies of olivacea).

Type Locality: "Colorado"

Mamestra lucina Smith, 1901:236 (as race of olivacea);

Dyar, 1902:154 (as synonym of olivacea).

Polia lucina (Smith). Barnes and McDunnough, 1917:51 (as subspecies of olivacea).

Lacinipolia lucina (Smith). McDunnough, 1938:71 (as subspecies of olivacea).

Type Locality: "British Columbia"

Mamestra megarena Smith, 1901:236 (as synonym of olivacea).

Polia megarena (Smith). Barnes and McDunnough, 1917:51 (as subspecies of olivacea).

Lacinipolia megarena (Smith). McDunnough, 1938:71 (as subspecies of olivacea).

Type Locality: "Colorado"

Mamestra obnigra Smith, 1901:238 (as race of olivacea);

Dyar, 1902:154 (as synonym of olivacea).

Polia obnigra (Smith). Barnes and McDunnough, 1917:51 (as subspecies of olivacea).

Lacinipolia obnigra (Smith). McDunnough, 1938:71
subspecies of comis).

Type Locality: "Oregon"

Mamestra petita Smith, 1901:239 (as race of olivacea);
Dyar, 1902:154 (as synonym of olivacea).

Polia petita (Smith). Barnes and McDunnough, 1917:51
(as subspecies of olivacea).

Lacinipolia petita (Smith). McDunnough, 1938:71 (as
subspecies of olivacea).

Type Locality: "Washington"

DESCRIPTION

Male. An extremely variable species, much more so than any other Lacinipolia; therefore, the description given here is for the "typical." Palpi, front and collar brown, lightly sprayed with silvery-gray. Antennae simple. Collar with dark transverse band. Thorax concolorous with front, except lateral sides which are often suffused with white scales. Abdomen grayish-brown. Fore wing with median space darkest and brown fuscous. Outer third of wing lightest; inner third not nearly as contrasting. A slight greenish tinge over much of fore wing in some fresh specimens. Basal line geminate, wavy and black with gray filling. Trace of basal dash. Antemedial space heavily

suffused with reddish brown. Medial line geminate with inner line becoming obscure on upper half; gray filling. Medial line slightly oblique to inner margin, rarely with tooth on 2A. Postmedial line geminate, inner line black, outer line mostly reddish brown. Postmedial line inwardly curved beneath and fused with bottom corner of reniform. Reniform kidney shaped, mostly pale filled and contrasting; orbicular small, obscure; claviform slightly traceable in some specimens. Subterminal space grayish and subterminal line paler, irregularly sinuate, sometimes marked only by the contrast between terminal and subterminal spaces, but more usually preceded by a dusky shade. Terminal line marked only by short dashes. Fringe gray fuscous. Hind wing gray fuscous, paler at base. Fore wing and hind wing beneath typical, with trace of reniform and hind wing with postmedial line and discal spot.

Female. Darker than male and sometimes without marked contrasts. In subterminal space, particularly toward the inner margin, there is a powdering of yellowish or greenish scales, which in the males usually extends through a greater portion of wing. Females tend to be more greenish, whereas males tend to be more yellowish. Markings similar to male.

TYPE MATERIAL

Lacinipolia olivacea (Morrison): A search of the larger museums could not locate the type of olivacea; however, I did examine specimens labeled olivacea by A. R. Grote and J. B. Smith, as well as Morrison's (1874a) lengthy description of the type and I feel confident that my determination is correct. Smith (1901), in his paper "Notes on Mamestra olivacea Morr. and its Allies," writes at length about olivacea and the variation that occurs. He alludes to having seen the type and I suspect that he did.

Lacinipolia obscurior (Smith): Holotype, male (USNM); Label Data - Tag 1, "M. obscurior type Smith."

Lacinipolia vau-media (Smith): (The following is believed to be the type): Holotype, male (USNM); Label Data - Tag 1, "Calgary 196 A.H.," Tag 2, "56," Tag 3, "177," Tag 4, "12," Tag 5, "v-media," Tag 6, "Doll never heard of vau-media by Sm. - records (show) type in Cramer Coll. so it aught to be now in Barnes Coll. See note 12a," Tag 7, "♂ genitalia #30 on slide # 10, Dec. 1930," Tag 8, "Barnes Collection."

Lacinipolia altua (Smith): Lectotype, male (USNM); Label Data - Tag 1, "Glenwood Spr., Col.," Tag 2,

"Collection of J. B. Smith," Tag 3, "Mamestra altua ♂ type, Sm.," Tag 4, "Lectotype Mamestra altua Sm. by E. L. Todd."

Lacinipolia lucina (Smith): Lectotype, male (USNM); Label Data - Tag 1, "Brit. Col. (British Columbia, Canada)," Tag 2, "Collection of J. B. Smith," Tag 3, "Mamestra lucina ♂ type, Sm.," Tag 4, "Lectotype mamestra lucina Sm. by E. L. Todd."

Lacinipolia megarena (Smith): Lectotype, male (USNM); Label Data - Tag 1, "June 8-15," Tag 2, "Glenwood Spgs., Col.," Tag 3, "Collection of J. B. Smith," Tag 4, "Mamestra megarena ♂ type, Sm. by E. L. Todd."

Lacinipolia obnigra (Smith): Lectotype, female (USNM); Label Data - Tag 1, "at light," Tag 2, "Corvallis, 8-5-98, Or.," Tag 3, "Collection of J.B. Smith," Tag 4, "Mamestra obnigra ♀ type, Smith," Tag 5, "Lectotype Mamestra obnigra Sm., by E. L. Todd."

Lacinipolia petita (Smith): Lectotype, male (USNM); Label Data - Tag 1, "Seattle, Wash.," Tag 2, "Collection of J. B. Smith," Tag 3, "Mamestra petita ♂ type, Sm.," Tag 4, "Lectotype Mamestra petita Sm. by E. L. Todd."

SPECIMENS EXAMINED (1246)

ARIZONA: Apache Co., Ditch Camp (3:LACM); Cochise Co., Southwestern Research Station (3:LACM); Gila Co.

(1:LACM); Co. undet., Diamond Rock (15:LACM), Oak Creek (11:LACM), Paradise (1:CNCI), Redington (1:CNCI), Santa Catalina Mts. (1:CNCI).

CALIFORNIA: Alpine Co., Crystal Spring Campground (7:LACM); Fresno Co., Hume Lake (4:LACM); Los Angeles Co., Buckhorn (5:LACM), Pearblossom (1:LACM); Modoc Co., Lower Rush Campground (2:LACM); Mono Co., Mono Lake (15:LACM), McGee Creek (5:LACM); Nevada Co., (3:CNCI); Placer Co., Cisco (2:LACM), Truckee (10:LACM), (7:CNCI), Ward Creek (154:LACM); Plumas Co., Johnsville (9:LACM), Mohawk (1:LACM); San Bernardino Co. (3:MSUC), Barton Flats (7:LACM), "Campo-ougo" (4:LACM), Fallville (2:LACM), Idyllwild (2:LACM), Kelso (1:LACM), Santa Ana (2:LACM); Siskiyou Co., Castle Lake (1:LACM); Co. undet., Yosemite Valley (9:LACM), Mill Valley (1:CNCI), Lake City (1:FMNH).

COLORADO: Archuleta Co., Piedra (3:LACM); Boulder Co., Boulder (1:FMNH); Chaffee Co. (6:LACM); Clearcreek Co., Georgetown (1:FMNH); Garfield Co., (3:FMNH), Glenwood Springs (1:LACM), (1:CNCI); Gilpin Co., Gilpin Gulch (6:LACM), Lump Gulch (6:LACM); Gunnison Co., Gothic? Biological Lab. (2:LACM), Marble (23:LACM); La Plata Co. (3:MSUC), Hermosa (4:LACM), Durango (2:CNCI);

Larimer Co., Estes Park (5:LACM), Long's Peak (1:FMNH); Montezuma Co., Transfer Camp Ground (4:LACM); Pitkin Co. (12:LACM); Teller Co., Florissant (95:LACM), Big Spring Ranch (80:LACM), Manitou Springs (1:LACM), (2:FMNH); Co. undet. (2:LACM), Hall Valley (1:LACM), Maysville (7:CNCI) (12:FMNH), Pine (1:FMNH), Rocky Mt. National Park (1:LACM), (2:FMNH).

CANADA: Alberta, Calgary (5:CNCI) (3:FMNH) (1:LACM), Elkwater (3:CNCI), Lake Louise (1:CNCI), Lethbridge (4:CNCI), Lloydminster (5:CNCI), Mayberries (3:CNCI), Nordgee (2:CNCI), Sunnydale (1:CNCI); British Columbia, Atlin (1:CNCI), Agassiz (1:LACM), Alberni (1:LACM), Departure Bay (1:CNCI), Duncans (3:CNCI), New Westminster (3:LACM), Peachland (1:LACM), Summerland (1:CNCI), Victoria (1:CNCI), Wellington (11:LACM), 100 Mile House (1:CNCI); Manitoba (5:CNCI), Brandon (4:CNCI), Cartwright (1:FMNH), Le pas (2:CNCI), Miami (2:LACM), "Ten. Canon" (1:CNCI), Wabowden (1:CNCI); New Brunswick, Fredricton (1:BKMC), "Chamek" (1:CNCI); Newfoundland, Corner Brook (2:CNCI), Cow Head (6:CNCI), Gander (11:CNCI); Northwest Territories, Fort Smith (3:CNCI); Nova Scotia, Annapolis (4:CNCI), Colchester (1:LACM), Digby (1:CNCI), Halifax Waterland (1:LACM), Mt. Uniacks? (1:LACM), Queen Co. (2:CNCI); Ontario, Glenwood (1:CNCI), Kittys Brook (2:CNCI), Ogoki (6:CNCI), Ottawa (2:CNCI); Prince Edward

Island, Ch' town? (3:CNCI), Hunter River (1:CNCI), Stanhope (5:CNCI); Quebec, Albert (1:CNCI), Forestville (9:CNCI), Laniel (3:CNCI), Lac Mondor (4:CNCI), Mistassini (1:CNCI), Mont Joli (8:CNCI), Mt. John (1:CNCI), Ste. Flore (3:CNCI), Saskatchewan (2:FMNH), Earl Grey? (1:CNCI), Lost Mountain Lake (2:CNCI), Waskesiu Lake (1:CNCI), Willow Bunch (1:CNCI); Yukon Territory, Teslin (1:LACM) (1:CNCI).

IDAHO: Latah Co., Moscow (1:LACM), Shoshone Co., Wallace (27:LACM); Co. undet., Moscow Mts. (1:LACM).

ILLINOIS: Cook Co., Chicago (2:FMNH), Evanston (5:FMNH).

INDIANA: Vermillion Co. (1:MSUC); Co. undet., Hessville (1:FMNH).

MAINE: Penobscot Co., Passadumkeag (1:CNCI), Piscataquis Co., Greenville (1:CNCI); Somerset Co., Jackman (1:CNCI); York Co., Kennebunk Pt., South (10:CNCI); Co. undet., Lincoln (2:FMNH).

MASSACHUSETTA: Nantucket Island (1:CNCI).

MICHIGAN: (1:CNCI), (1:MSUC); Kalamazoo Co. (1:MSUC), Marquette Co. (2:FMNH); Osceola Co. (11:MSUC); Co. undet., Rowman? (3:LACM).

NEVADA: Clark Co., Toiyabe Range, Kingston Canyon (34:LACM), Elko Co. (19:LACM), Ruby Valley (6:LACM),

Thomas Canyon (20:LACM), Jarbidge (1:LACM), Lamoille Can. (2:LACM); Ney Co., Pine Creek Canyon (4:LACM), Jett Canyon (7:LACM), White Pine Co., Lehman Creek (11:LACM), White Pine Mts. (2:LACM); Co. undet., Mt. Washington (3:LACM).

NEW HAMPSHIRE: Coos Co. (3:MSUC), Randolph (3:LACM).

NEW MEXICO: (1:CNCI), Lincoln Co., Bonita Lake (4:LACM); Otero Co., High Rolls Mt. Park (5:LACM); Co. undet., Frijoles (10:LACM), Jemez Mts. (5:CNCI).

NEW YORK: Essex Co., Boreas River (2:LACM), Sullivan Co. (1:CNCI).

NORTH CAROLINA: Co. undet., Mt. Mitchell (2:CNCI).

NORTH DAKOTA: Bottineau Co. (2:CNCI); Cass Co., Fargo (9:CNCI); Grand Forks Co. (3:CNCI).

OREGON: Baker Co., Spring Creek (15:LACM); Benton Co., (2:LACM), Corvallis (2:LACM); Clatsop Co. (3:LACM); Columbia Co., St. Helens (3:LACM); Grant Co., Seneca (1:CNCI); Josephine Co. (1:CNCI), Chief Joseph Mts. (9:LACM); Marion Co., Salem (1:CNCI); Multnomah Co., Portland (1:LACM); Co. undet., Emigrant Pass Park (1:CNCI), "13 North Burns" (2:LACM).

PENNSYLVANIA: Columbia Co. (1:CNCI); Forest Co., Brookston (1:CNCI); McKean Co. (1:CNCI).

UTAH: Cache Co., Logan (2:CNCI), Emery Co.,
Huntington (1:LACM); Kane Co., Aspen (5:LACM); San Juan
Co., Devil Canyon (1:LACM), Sanpete Co., Lake Hill Camp-
ground (1:LACM); Tooele Co., Stockton (2:CNCI), (2:LACM);
Utah Co., Springville (2:LACM); Wasatch Co., Park City
(1:FMNH), Strawberry (9:LACM), Strawberry Mts. (6:LACM);
Co. undet., Deer Creek (1:LACM).

VERMONT: Franklin Co. (1:MSUC).

WASHINGTON: Cowlitz Co., Castle Rock (4:CNCI),
Ferry Co., Republic (2:CNCI), Kittas Co., Cle Elum
(2:CNCI), Lewis Co., Chehalis (6:LACM), Wahkiakum Co.,
Cathlamet (1:CNCI); Walla Walla Co. (3:CNCI); Yakima
Co., Yakima (5:LACM); Toppenish (6:LACM); Co. undet.
Olympic National Park (1:LACM), Rim Rock El. 2500 ft.
(4:CNCI), Satus Pass, El. 3100 ft. (1:CNCI).

WISCONSIN: Barron Co., Cumberland (1:FMNH); Forest
Co. (3:LACM), Kewaunee Co. (1:FMNH), Marathon Co.
(5:LACM), Wausau (2:LACM); Oneida Co., Lake Katherine
(70:LACM), Rhinelander (1:FMNH); Vilas Co., Eagle River
(1:FMNH), Sayner (2:FMNH).

WYOMING: Albany Co., Sheep Creek (1:CNCI); Park Co.,
Cody (1:CNCI), (1:FMNH), Shoshone (7:CNCI); Teton Co.,
Jenny Lake (2:LACM) (30:CNCI), Moran (8:LACM).

RECOGNITION CHARACTERS

This is by far the most variable species of Lacinipolia. It varies in ground color, the amount of greenish or brownish suffusion, and the degree of contrast of the maculation. Some specimens have very contrasting shades, others are almost evenly gray. Specimens from the eastern United States usually have a greenish tinge to the forewings, while those of the western United States may have a reddish tinge. Noticing this variation, Smith (1901) named subspecies to fit some of the variations. Although some of his subspecies may prove valid, some certainly are not. Even Smith (1901) had three variations of this species, two of which he named (the typical olivacea plus altua and megarena) from the same locality (Glenwood Springs, Colorado). Much more extensive work will be needed before the geographic races or subspecies of olivacea can be ascertained; therefore, I have synonymized all of them. Their genitalia are identical. Because of variation, there are no superficial characters that will identify all of them and olivacea keys out at many choices in the "Key." To facilitate an accurate separation of the four sibling species

(olivacea, comis, davena and rectilinea), the following summary of diagnostic characters is given:

L. rectilinea - postmedial line evenly oblique from top of reniform to inner margin; clasper of male valve with slight elbow-bend near base (however, this is a difficult character to use); periostium of female with distinct median cleft (excellent character to separate from comis).

L. comis - postmedial line nearly straight (evenly oblique from top of reniform to inner margin but almost always with slight indentation out from bottom of reniform; clasper without elbow-bend (not best character to use to separate from rectilinea); clasper long, pointed, narrow and about one-third as wide at its base as membranous flap is wide at base (excellent character to separate from olivacea). Periostium without median cleft (excellent character to separate from rectilinea).

L. olivacea - postmedial line nearly always somewhat concave under part of reniform (may be similar to comis, but never to rectilinea); clasper tapered but not pointed and about half as wide at its base as

membranous flap is wide at base (excellent character to separate from comis).

L. davena - postmedial line similar to that of olivacea; cucullus of valve truncate apically and not much wider than neck, whereas the cucullus of olivacea, comis and rectilinea is much wider than neck.

DISTRIBUTION

Widespread over the entire United States and Canada.

Lacinipolia comis (Grote)

(Figs. 107, 112-113, 183, 272-277)

Mamestra comis Grote, 1877:85; Grote, 1882a:27; Smith, 1891a:41 (as synonym of olivacea); Smith, 1891b:254 (as synonym of olivacea); Dyar, 1902:154 (as subspecies of olivacea).

Polia comis (Grote). Barnes and McDunnough, 1917:51 (as subspecies of olivacea).

Lacinipolia comis (Grote). McDunnough, 1938:71.

Type Locality: "Vancouver Island"

Mamestra lunolacta Smith, 1903:17. NEW SYNONYMY.

Polia lunolacta (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia lunolacta (Smith). McDunnough, 1938:71.

Type Locality: "Washington"

DESCRIPTION

Male. The maculation and superficial appearance are quite similar to olivacea, but the greenish, mossy shading toward inner margin is dull; also, the median area usually has dark brown tinge. The most obvious difference is the tendency of the reniform to be whitish or pale filled in comis and with a darker center in olivacea.

Female. Darker than male and again similar to

olivacea. Differences between the two species are minute, but usually olivacea has more greenish scales suffused over fore wings and there is a tendency for a whitish patch in the anal area of comis.

TYPE MATERIAL

Lacinipolia comis (Grote): Holotype, male (AMNH); Label Data - Tag 1, "Vancouver Island," Tag 2, "Type No. AMNH," Tag 3, "5585," Tag 4, "Collection Hy. Edwards," Tag 5, "Mamestra comis, Type Grote."

Lacinipolia lunolacta (Smith): Lectotype, female (AMNH); Label Data - "Pullman, Wash.," Tag 2, "Collection C. V. Piper," Tag 3, "95," Tag 4, "J. B. Smith Collection, Rutgers," Tag 5, "Mamestra lunolacta ♀ type, Sm.," Tag 6, "39," Tag 7, "Lectotype Mamestra lunolacta Sm. by E. L. Todd."

SPECIMENS EXAMINED (228)

CALIFORNIA: Lake Co., Anderson Springs (1:LACM); Marin Co. (1:LACM), Inverness (1:LACM); Mendocino Co. (1:LACM); Modoc Co., Warner Mts. (1:LACM); Placer Co., Ward Creek (1:LACM); San Bernardino Co., San Bernardino National Forest (1:LACM); Sonoma Co. (1:CNCI), Laytonville (1:CNCI).

CANADA: British Columbia, Alberni (1:LACM), Bowser (2:CNCI), Creston (12:CNCI), Culture Lake (1:CNCI),

Departure Bay (1:CNCI), Duncans (16:CNCI), Fanny Bay (3:CNCI), Kaslo (13:CNCI), Keremos (3:CNCI), Manis (1:CNCI), Nanaimo (1:CNCI), Nelson (6:CNCI), New Westminster (3:LACM), Peachland (1:LACM), Qualicum Beach (4:CNCI), Robson (4:CNCI) (3:LACM), Salmon Arm (1:CNCI), Sardis (3:CNCI), Vernon (1:CNCI), Victoria (2:CNCI), (3:LACM); Quebec, Lac Mondor (1:CNCI); Vancouver (6:CNCI), Wellington (30:CNCI), (1:LACM).

IDAHO: Bonner Co., Priest River (5:LACM); Latah Co., Moscow (3:CNCI); Shoshone Co., Wallace (25:LACM); Twin Falls Co., Buhl (1:LACM)

WASHINGTON: Benton Co., N. McFarland (5:LACM), Kales (2:LACM); Callam Co., Neah Bay (1:LACM), Sequim (3:CNCI); Clatsop Co., Elsie (13:LACM); Columbia Co., Dayton (11:LACM); Cowlitz Co., Castle Rock (8:CNCI); Gray's Harbor Co., Steven's Crossing (1:CNCI), Steven's Pass (1:CNCI); King Co., Kent (2:LACM), Seattle (1:LACM); Kitsap Co., Seabeck (2:LACM); Mason Co., Hoodspout (3:CNCI); Umatilla Co., Ukiah Dale (1:CNCI); Wahkiakum Co., Cathlamet (2:CNCI); Walla Walla Co., Walla Walla (9:CNCI); Wallowa Co., Joseph (3:CNCI), Walowa State Park (1:LACM); Yakima Co., Toppenish (3:CNCI); Co. undet., Dosewallips River (1:LACM).

RECOGNITION CHARACTERS

Since olivacea is a highly variable species in coloration, the best character by which to separate comis from it is male genitalia. The clasper of comis is about one-third as thick near base as compared to membranous flap at base, and it is pointed, whereas olivacea's clasper is nearly half as thick as its membranous flap and more blunt. (See summary of diagnostic characters under olivacea.)

DISTRIBUTION

California, Canada, Idaho, Washington.

Lacinipolia rectilinea (Smith)

(Figs. 119, 182, 270-271)

Mamestra rectilinea Smith, 1887:465; Smith, 1891a:41;
Smith, 1891b:255; Dyar, 1902:154 (as subspecies of
olivacea.)

Polia rectilinea (Smith). Barnes and McDunnough, 1917:51
(as subspecies of olivacea).

Lacinipolia rectilinea (Smith). McDunnough, 1938:71
(as subspecies of comis).

Type Locality: "Vancouver Island"

DESCRIPTION

Male. Palpi, front, collar, thorax and abdomen dark brown fuscous. Antennae simple. Thorax with tendency for lateral sides to have median blackish stripe and slightly darker top edge. Fore wing a crimson brown with tinge of green. Median area only slightly darker than basal third and outer third of wing. Traceable basal line and basal dash. Medial line geminate, widely excurved to inner margin. Postmedial line geminate, outwardly oblique at costa to top of reniform, then rigidly oblique toward inner margin. Reniform and orbicular shaped as olivacea, but not nearly as distinct. Reniform slightly paler than median space;

orbicular barely traceable. Subterminal and terminal lines obscure. Fringe concolorous with fore wing, and with dark transverse band. Hind wing like olivacea. Fore wing and hind wing typical.

Female. Darker than male, not contrasting. Deep red suffusion, especially in anal area. Most markings obscure.

TYPE MATERIAL

Mamestra rectilinea (Smith): Lectotype, female (USNM); Label Data - Tag 1, "Vancouver Island," Tag 2, "Collection J.B. Smith," Tag 3, M. rectilinea, type Sm.," Tag 4, "Type No. 156USNM," Tag 5, "Type restricted to this specimen J. McD. (J. H. McDunnough)," Tag 6, "♀ genitalia on slide Nov. 26, 1939 JFGC#2692." Although Smith (1887) indicated that he had numerous specimens at hand when he described this species, neither McDunnough (in Barnes and McDunnough, 1913) or I could locate more than two female types from Vancouver Island in the larger museums' collections. Also, Smith gave the type locality as "California, Vancouver and Oregon."

SPECIMENS EXAMINED (65)

CALIFORNIA: Alameda Co., Oakland (2:CNCI); Lake Co., Anderson Springs (1:LACM); Placer Co., Ward Creek (1:LACM);

San Mateo Co., Half Moon Bay (1:CNCI); Santa Clara Co., Los Gatos (1:LACM); Sonoma Co., Guerneville (3:CNCI).

CANADA: British Columbia, Alberni (1:LACM), Vancouver Island, Duncans (1:CNCI), Victoria (5:CNCI).

IDAHO: Latah Co., Moscow (5:CNCI).

OREGON: Baker Co., Spring Creek (2:LACM); Benton Co. (1:LACM); Clatsop Co., Elsie (2:LACM).

WASHINGTON: Columbia Co., Dayton (1:CNCI); King Co., Seattle (2:CNCI); Walla Walla Co., Walla Walla (35:CNCI); Yakima Co., (2:CNCI).

RECOGNITION CHARACTERS

Superficially similar to other species in the olivacea group, but the only species with an evenly oblique post-medial line from top of reniform to inner margin. Male genitalia like comis, but female genitalia with periostrum having a slight cleft centrally, whereas comis has a broadly rounded periostrum. (See summary of diagnostic characters under olivacea).

DISTRIBUTION

California, Canada, Idaho, Oregon, Washington.

Lacinipolia davena (Smith)

(Figs. 114-117, 292-295)

Mamestra davena Smith, 1901:237; Dyar, 1902:154 (as synonym of olivacea).

Polia davena (Smith). Barnes and McDunnough, 1917:51 (as subspecies of olivacea).

Lacinipolia davena (Smith). McDunnough, 1938:71 (as subspecies of olivacea).

Type Locality: "California"

DESCRIPTION

Male. Palpi admixture of white and brown, third segment slightly lighter. Antennae simple, pubescent. Front and collar concolorous with palpi; front with dark brown bar extending between eyes; beyond transverse median band of collar scales are whitish tipped. Thorax lighter than palpi and with reddish brown tinge in some specimens to near white in others. Abdomen usually dull gray. Fore wing quite variable, maculation typically contrasting and ordinary lines geminate, pale filled. Basal line somewhat convex with slight tooth centrally, usually white filled. Antemedial line somewhat straight down to 2A, deep inward tooth, and then oblique to inner

margin. Postmedial line somewhat sinuate with small teeth on each vein, much lighter on lower half. Subterminal line indicated by pale line, quite wavy to Cu_1 , deep inward tooth, then straight to anal angle. Median area slightly darkest. Reniform upright, kidney shaped, dark outline and pale filled. Orbicular oval, oblique, dark outline, nearly concolorous filling. Claviform concolorous with dark outline. Subterminal area contrastingly lightest with each vein marked with dark scales. Prominent in both light and dark forms, davena has a reddish brown overlay in the subterminal area on lower half, above anal angle. This brownish tinge also extends from near base to claviform. Basal dash black, short and curved. Fringe concolorous. Hind wing from luteous to sordid with veins slightly darker and palest toward base. Fringe white with wavy transverse median band.

Female. Nearly identical to male. Hind wing may be slightly darker, and maculation of fore wing slightly more contrasting.

TYPE MATERIAL

Lacinipolia davena (Smith): Lectotype, male (USNM);
Label Data - Tag 1, "Sier. Nev. Cal.," Tag 2, "Mamestra

davena ♂ type Smith.," Tag 3, "Type No. 5759 USNM," Tag 4, " ♂ genitalia # 5 - on slide #5 Dec. 1930," Tag 5, "genitalia slide Smith Coll. 974," Tag 6, "Lectotype Mamestra davena Sm. by E. L. Todd."

SPECIMENS EXAMINED (88)

CALIFORNIA: Del Norte Co., Crescent City (1:CNCI); Los Angeles Co., Buckhorn (1:LACM); Miraposa Co., Miama Ranger Station (2:CNCI); Nevado Co., Truckee (1:LACM); Orange Co., Santa Ana (1:LACM); Placer Co., Ward Creek (4:LACM); Plumas Co., Nelson Creek (1:LACM), Johnsville (3:LACM); Riverside Co., Idyllwild (2:LACM); San Bernardino Co., Lake Arrowhead (2:LACM), Fallsvale (1:LACM); Sierra Co., Sierra City (2:LACM); Siskiyou Co., Castle Lake (3:LACM); Toulumme Co., Yosemite Valley (1:LACM); Tulare Co., Smokey Valley (1:LACM).

CANADA: Alberta, Waterton Lake (1:CNCI); British Columbia, Bowser (1:CNCI), Diamond Head (1:CNCI), Kaslo (2:CNCI), Robson (1:CNCI), Vancouver Island, Wellington (2:LACM), (3:CNCI).

IDAHO: Shoshone Co., Wallace (17:LACM)

NEW MEXICO: Taos Co. (1:LACM).

OREGON: Benton Co. (1:LACM); Clatsop Co. (26:LACM);

Jackson Co., Prospect (1:LACM); Lincoln Co., Newport (1:CNCI); Wallowa Co., Wallowa (1:LACM), Joseph (1:CNCI).

RECOGNITION CHARACTERS

Although superficially similar to olivacea and comis, most specimens of davena can be recognized by the reddish brown overlay on the fore wing and the cucullus of the male, which is somewhat truncate and only slightly wider at apex than neck. (See summary of diagnostic characters under olivacea).

DISTRIBUTION

California, Canada, Idaho, New Mexico, Oregon, Washington.

Lacinipolia lorea (Guenee)

(Figs. 122-123, 296-298)

Hydroecia lorea Guenee (in Boisduval and Guenee),

1852a:126; Morris, 1860:29.

Mamestra lorea (Guenee). Grote, 1882a:27 Smith, 1891a:

41; Smith, 1891b:262; Dyar, 1902:155; Forbes, 1954:

90.

Polia lorea (Guenee). Barnes and McDunnough, 1917:51.Lacinipolia lorea (Guenee). McDunnough, 1938:71.

Type Locality: "New York"

Hydroecia ligata Walker (in D'Urban), 1860:253.Mamestra ligata (Walker). Smith, 1891a:41 (as synonymof lorea); Smith, 1891b:262 (as synonym of lorea);Dyar, 1902:155 (as synonym of lorea); Forbes,1954:90 (as synonym of lorea).Polia ligata (Walker). Barnes and McDunnough, 1917:51(as synonym of lorea).Lacinipolia ligata (Walker). McDunnough, 1938:71 (assynonym of lorea).Type Locality: None given but Walker probably
collected it in New York.Mamestra dodgei Morrison, 1875:90; Grote, 1882a:26;Smith, 1891a:41 (as synonym of lorea); Smith,1891b:262 (as synonym of lorea); Dyar, 1902:155

(as synonym of lorea); Forbes, 1954:90 (as synonym of lorea).

Polia dodgei (Morrison). Barnes and McDunnough, 1917:51 (as synonym of lorea).

Lacinipolia dodgei (Morrison). McDunnough, 1938:71 (as synonym of lorea).

Type Locality: "Nebraska"

DESCRIPTION

Male. Palpi, front, collar, thorax and fore wing concolorous, being luteous brown. Front with vague spots near each eye. Collar without typical median band. Antennae simple, pubescent. Fore wing with most lines single, obsolescent with few distinct, and largely pale. Basal line obsolete. Antemedial straight but dentate on some veins. Postmedial line not noticeably denticulate, outwardly oblique to M_2 , then inwardly oblique to inner margin. Median area slightly darkest and subterminal area lightest. Subterminal line obsolescent, wavy, pale and narrow. Veins contrast in subterminal area with dark scales. Reniform faint, scattered dark outline. Orbicular faint, somewhat oval, oblique. Claviform obsolete. No dashes present. Fringe concolorous. Hind wing near same shade as fore

wing. Fringe cream without median band.

Female. Essentially as male.

TYPE MATERIAL

Lacinipolia lorea (Guenee): Although I have not seen the type, which is probably somewhere in Europe, this species is easily recognized as it resembles no other Lacinipolia; also, there is a specimen in the USNM labeled as follows: Tag 1, "Catskill Mts., N.Y.," Tag 2, "lorea Gn. XT (checked type) J. McD. (J. H. McDunnough."

Lacinipolia ligata (Walker): I have not seen the type; therefore, I am following the example of previous authors in placing this as a synonym of lorea.

Lacinipolia dodgei (Morrison): I have not seen the type; however, I have seen a photograph by Barnes and McDunnough (1913:Pl. 6, fig. 2) of a male cotype, and concur with previous authors that it represents a synonym of lorea.

SPECIMENS EXAMINED (218)

CANADA: (3:LACM); Alberta, Calgary (1:LACM); British Columbia, Robson (1:LACM); Manitoba, McCreary (1:LACM); Ontario (1:LACM).

COLORADO: Robson Br.? (1:LACM).

IDAHO: Bonner Co., Priest River (1:LACM); Shoshone Co., Wallace (29:CMIC).

ILLINOIS: Cook Co., Arlington Heights (1:FMNH), Chicago (1:FMNH), Evanston (3:LACM), (3:FMNH), Palos Park (4:FMNH); McHenry Co., Algonquin (8:CMIC), Harvard (2:CMIC); Peoria Co., Elmwood (2:FMNH); Woodford Co., Benson (1:CMIC); Co. undet., Edgebrook (7:FMNH), (1:LACM), Kato (1:LACM), Lexdeu (2:FMNH), River Ridge (1:FMNH).

INDIANA: Vermillion Co. (1:MSUC); Co. undet., Hessville (1:LACM).

MAINE: Penobscot Co., Enfield (1:LACM); York Co., Kennebunk (1:CMIC).

MASSACHUSETTS: Magnolia (1:CMIC).

MICHIGAN: Allegan Co., Fennville (2:FMNH), Ingham Co., East Lansing (14:MSUC); Macomb Co., Detroit (5:MSUC); Monroe Co. (1:MSUC); Oakland Co. (1:MSUC); Oceana Co. (2:MSUC); Otsego Co. (2:MSUC); Schoolcraft Co. (1:MSUC).

NEBRASKA: Dodge Co. (3:CMIC); Co. undet. (2:OSUC).

NEW HAMPSHIRE: Sullivan Co., Claremont (5:CMIC).

PENNSYLVANIA: Allegheny Co., Warrendale (3:LACM), Pittsburg (6:LACM), (16:CMIC), Sharpsburg (4:CMIC); Beaver Co. (1:CMIC); Butler Co., Slippery Rock (3:CMIC); Washington Co. (5:CMIC).

OHIO: Franklin Co., Columbus (3:OSUC); Licking Co., Granville (3:OSUC).

UTAH: Vintah Co., Vernal (5:CMIC); Co. undet.
(9:CMIC).

WISCONSIN: Milwaukee Co., Milwaukee (32:LACM);
Oneida Co., Lake Katherine (21:LACM).

RECOGNITION CHARACTERS

This species can probably be distinguished by the photograph alone. Some specimens much paler than others, but otherwise as above.

DISTRIBUTION

Widespread over much of the United States and Canada.

Lacinipolia basiplaga (Smith)

(Figs. 124-125, 174, 299-300)

Mamestra basiplaga Smith, 1905a:201.

Polia basiplaga (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia basiplaga (Smith). McDunnough, 1938:70.

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi dark ash gray, third segment suffused with lightest scales. Antennae simple, pubescent. Front lighter than palpi, with dark bar between eyes narrow near middle. Collar and thorax admixture of brownish and blackish scales, many scales whitish tipped. Collar appears to have two transverse bands. Thorax slightly darker than collar. Fore wing concolorous with thorax, overlaid with reddish brown tinge, many lines blend with ground, geminate. Basal line obsolescent, but slightly traceable. Antemedial line marked by row of dark, narrow scales, somewhat straight its length, inward tooth on 2A. Postmedial line convex to bottom of reniform, then straight but oblique to inner margin, distinct outward tooth on 2A. Subterminal line single, pale, wavy to Cu_1 , inwardly oblique to Cu_2 , then outwardly oblique to anal angle. Subterminal area

distinctly lightest, with silvery tinge. Terminal area dark. Reniform upright, with contrasting white outline, usually edged with black scales. Orbicular oval, with broken pale to dark outline, filling concolorous. Claviform dark outlined, filling concolorous. Basal dash black, narrow, long with lower short tooth. Black dash parallel with and below basal dash but along inner margin. Hind wing distinctly white with sordid scales along inner margin and part of veins. Fringe white, trace of median band.

Female. Distinctly darker than male. All markings darker, especially noticeable on hind wing which is uniformly sordid throughout.

TYPE MATERIAL

Lacinipolia basiplaga (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "Huachua Mts., Ariz.," Tag 2, "Collection J. B. Smith," Tag 3, "Mamestra basiplaga ♂ type Smith," Tag 4, "Lectotype Mamestra basiplaga Sm. by E. L. Todd."

SPECIMENS EXAMINED (163)

ARIZONA: Cochise Co., Chiricahua Mts. (1:LACM), Miller Canyon (1:LACM), Pinery Canyon (111:LACM), Ramsey Canyon (1:LACM), Sunnyside (6:LACM); Gila Co., Tonto Creek (1:LACM); Santa Cruz Co., Madera Canyon (32:LACM)

Pena Blanca (10:LACM).

RECOGNITION CHARACTERS

This species is unique among Lacinipolia in having a black streak along the inner margin below the basal dash. This character, in combination with the reddish brown tinge of fore wing, should prove quite diagnostic.

DISTRIBUTION

Arizona.

Lacinipolia laudabilis (Guenee)

(Figs. 126-127, 301-302)

Hecatera laudabilis Guenee (in Boisduval and Guenee),
1852b:394; Morris, 1860:37.

Mamestra laudabilis (Guenee). Grote, 1882a:27; Smith,
1891a:41; Smith, 1891b:259; Dyar, 1902:155; Forbes,
1954:91.

Polia laudabilis (Guenee). Barnes and McDunnough,
1917:51.

Lacinipolia laudabilis (Guenee). McDunnough, 1938:71.

Type Locality: "North America"

Hapalia indicans Walker, 1857:359; Morris, 1860:40.

Mamestra indicans (Walker). Smith, 1891a:41 (as synonym
of laudabilis); Smith, 1891b:259 (as synonym of
laudabilis); Forbes, 1954:91 (as synonym of
laudabilis).

Polia indicans (Walker). Barnes and McDunnough, 1917:51
(as synonym of laudabilis).

Lacinipolia indicans (Walker). McDunnough, 1938:71 (as
synonym of laudabilis).

Type Locality: "East Florida"

Polia mediosuffusa Strand (described as aberration of
laudabilis), 1916:29. NEW SYNONYMY.

Lacinipolia mediosuffusa (Strand). McDunnough, 1938:71
(as form of laudabilis).

Mamestra mediosuffusa (Strand). Forbes, 1954:91 (as
variation of laudabilis).

Type Locality: "Central America"

Polia rufoirrorata Strand (described as aberration of
laudabilis), 1916:29. NEW SYNONYMY.

Lacinipolia rufoirrarata (Strand). McDunnough, 1938:71
(as form of laudabilis).

Type Locality: "Central America"

DESCRIPTION

Male. Palpi coal black on first and second segments except apical portion of second is white; third segment white with sprinkling of few black scales. Antennae simple, pubescent. Front white with distinct greenish tinge dorsad and small dark spot near each eye. Collar white with green tinge and sprinkling of few dark scales where median band is normally found in the Lacinipolia. Thorax concolorous with collar. Abdomen luteous. Fore wing ground concolorous with thorax, markings geminate, white filled, and green tinge overall. Basal line somewhat straight, oblique, dark outline with tooth. Antemedial line nearly straight its length, denticulate

on veins. Postmedial line convex around reniform, faint below and denticulate. Subterminal line obsolescent with scattered white and dark scales. Median area distinctly darkest down below middle of wing, then becoming concolorous with basal area. Reniform upright, oblong, black outlined and greenish ground filled. Orbicular roundish, variable, otherwise similar to reniform. Between reniform and orbicular is a distinct reddish brown patch. Claviform obsolescent. Basal line black, sometimes broken by white of basal line. Fringe with two rows of black spots, inner row in shape of wedges. Hind wing white with sordid scales along outer margin and some parts of veins. Fringe white, trace of band.

Female. Similar to male, slightly darker, especially noticeable on hind wing which has more sordid scales.

TYPE MATERIAL

The types of laudabilis, indicans, mediosuffusa and ruboirrorata are in the British Museum. Grote and Robinson (1868) looked at the types and concluded that indicans was a synonym of laudabilis. Smith (1910b) later examined these types and confirmed their identification. Since laudabilis is such a unique species,

easily identified from a photograph alone, there is no doubt in my mind that my identification of this species is correct. Strand (1916) described two variations of laudabilis which McDunnough (1938) did not accept as good subspecies and which he therefore synonymized. I accept his conclusions.

SPECIMENS EXAMINED (91)

ARKANSAS: Craighead Co., Jonesboro (3:CLSC); Fulton Co., Mammoth Springs (2:CLSC); Hempstead Co., Hope (1:LACM).

FLORIDA: Charlotte Co., Punta Gorda (4:FMNH); Duval Co., Jacksonville (1:FMNH); Hillsborough Co., Tampa (1:LACM).

MISSISSIPPI: Hancock Co., Bay St. Louis (2:BKMC); Harrison Co., (1:LACM); Biloxi (1:BKMC); Hinds Co. (2:LACM), Jackson (2:BKMC); Rankin Co., Pearl (1:BKMC); Warren Co., Bovina (3:BKMC).

TENNESSEE: Sevier Co., Gatlinburg (1:FMNH); Shelby Co., Memphis (1:FMNH).

TEXAS: Coleman Co., Brownwood (1:LACM); Comal Co., San Marcus (3:LACM); San Patricio Co. (37:LACM), Sinton (14:LACM); Walker Co., Huntsville (1:LACM); Willacy Co. (2:LACM); Wilson Co., Spring (4:LACM), Houston (2:LACM); Co. undet. (1:LACM).

RECOGNITION CHARACTERS

Laudabilis is quite distinctive in coloration, maculation and genitalia. Any additional remarks here would be superfluous.

DISTRIBUTION

Probably occurs over the entire southern and south-central United States.

Lacinipolia consimilis McDunnough

(Figs. 18, 128-129, 303-304)

Lacinipolia consimilis McDunnough, 1937a:183; McDunnough, 1938:71.

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi white, heavily shaded with blackish outward and slight suffusion of blackish-brown on inner surface of joints one and two. Antennae simple, pubescent. Front, collar and thorax cream with slight greenish tinge. Slight trace of band on collar and spot near each eye. Thorax heavily suffused with black scales. Abdomen brown. Fore wing concolorous with thorax. Basal line excurving in discal cell. Antemedial line marked by two costal spots, spot in cell, dash on 2A and spot on inner margin. Postmedial line broadly convex around reniform and touching it at lower corner. Three shades compose most of median space: purplish brown over most of it, black in patches and a yellowish patch below reniform. Reniform large, somewhat constricted. Orbicular roundish. Claviform obsolete. Subterminal line nearly complete and made up of "V" shaped marks and dots. Fringe with two rows of

spots. Hind wing smokey, becoming slightly paler near base. No markings except some veins slightly darker.

Female. Very similar to male but overall slightly darker, noticeable especially in the terminal area which is suffused with brownish scales. Hind wing uniformly sordid.

TYPE MATERIAL

Lacinipolia consimilis McDunnough: The Canadian National Museum provided photographs of the genitalia and adults; therefore, label data for each of the following types is according to McDunnough (1937).

Holotype, male; Label Data - "Huachuca Mts., Ariz. (ex Coll. Barnes) in the United States National Museum." Allotype, female; Label Data - "Same data." Paratypes; "4 males, same data, 2 males, 2 females, Redington, Ariz. (Coll. Barnes); 2 females, Santa Catalina Mts., Ariz., Sept. (Coll. Barnes); 1 male, 1 female, Arizona, July (Coll. O. Poling). All from the United States National Museum, 2 males, 1 female, being retained in the Canadian National Collection, Ottawa, 1 female, Douglas, Ariz. (Aug.); No. 4243 in the Canadian National Collection. "

SPECIMENS EXAMINED (48)

ARIZONA: Cochise Co., S. W. Research Station (25:LACM); Graham Co., Wet Canyon (2:LACM); Santa Cruz Co., Madera Canyon (7:LACM); Co. undet., Huachuca Mts. (6:CNCI), Oak Creek Canyon (1:LACM), Redington (4:CNCI), Santa Catalina Mts. (2:CNCI), White Mountains (1:LACM)

RECOGNITION CHARACTERS

Although the maculation of the fore wings is superficially quite similar to several other Lacinipolia, the cucullus of the male genitalia is radically different, being somewhat finger-like, and the ventral edges of the genital plate, immediately caudad of the periostrum, are emarginate.

DISTRIBUTION

Arizona.

Lacinipolia runica (Hampson)

(Figs. 130-131, 163, 190, 305-306)

Miselia runica Hampson, 1918:119.

Lacinipolia runica (Hampson). McDunnough, 1938:71.

Type Locality: "Arizona"

DESCRIPTION.

Male. Palpi dark brown on segments one and two except apical portion of second segment white and third segment white with sprinkling of few dark scales. Antennae simple, pubescent. Front white, dark bar between eyes, broken in center. Collar white with prominent black transverse median band. Thorax white, marked with black lines and sprinkling of few black scales, overall greenish tinge. Abdomen brownish. Fore wing concolorous with thorax, most lines noticeably geminate and white filled. Basal line broad, wavy. Antemedial line outwardly oblique to orbicular, inwardly oblique to Cu-M vein, then convex to inner margin with distinct inward tooth on 2A. Postmedial line convex around reniform, then oblique to inner margin, denticulate on veins and narrower than antemedial line. Subterminal line begins as black bar at costa, then

then indicated by white with dark broken outline. Reniform upright, distinctly constricted in center, dark outline and light filling; touches antemedial line. Claviform somewhat similar to orbicular. Median area contrastingly darkest. Dark patch between reniform and postmedial line. Basal dash distinct, usually broken by white of basal line. Anal dash extending from outer margin to subterminal line. Fringe concolorous. Hind wing largely luteous, only slightly paler toward base. Fringe cream with wavy transverse median band.

Female. Slightly darker than male, especially noticeable on hind wing which is uniformly brown.

TYPE MATERIAL

Lacinipolia runica (Hampson): Holotype, female; Runica was described from one female specimen which was deposited in the British Museum. I have before me a color photograph of the type and its labels made and sent by I. W. Beresford Nye of the British Museum. Label Data - Tag 1, "Holotype," Tag 2, "Abdomen missing," Tag 3, "Palmerlee, Arizona," Tag 4, "1912-477," Tag 5, "Miselia runica ♀ , Hampson."

SPECIMENS EXAMINED (24)

ARIZONA: Cochise Co., Huachuca Mts. (11:LACM);
Co. undet., Santa Rita Mts. (13:LACM).

RECOGNITION CHARACTERS

The genitalia of runica exhibit excellent diagnostic characters from which to make positive identification. The membranous flap of the valve is extremely different from all other male Lacinipolia in that it is very long and thin on one side but much thicker on the other side. The periostium of the female has a lip or flange that is about three times as long as it is high at its center, with a gentle tapering toward each side.

DISTRIBUTION

Arizona.

Lacinipolia viridifera McDunnough

(Figs. 133, 307-310)

Lacinipolia viridifera McDunnough, 1937a:182; McDunnough,
1938:71.

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi white with black on outer sides of segments one and two. Antennae simple, strongly pubescent. Front, collar and thorax light greenish, black spot near each eye, black transverse band near apex of collar, thorax with few black scales sprinkled and two small black patches lateroposteriorly. Abdomen light gray to near white and black dorsal spot on first segment distinct. Fore wing concolorous with thorax except median area slightly darker on upper half. Basal line typical, wavy. Antemedial black with faint tooth on 2A. Postmedial line broadly curved around and partially fading out below reniform after touching it. Median area light green with purplish-brown spot in front of reniform. Orbicular varies from small to medium, round, indicated by black ring; reniform large, faintly constricted with top black edge obsolete; claviform

absent. Heavy black oblong spot marks beginning of subterminal line, otherwise obsolescent except for few scattered black scales strongest on Cu_1 and spot on inner margin. Basal dash with brown scales on basal half and black at apex, and forming an "L" mark. Fringe pale with double row of dark spots. Hind wing white, with white fringe.

Female. Much darker and differing considerably from male. Median area of fore wing shaded uniformly with purplish-brown. Most markings same as in male but more distinct. Subterminal line nearly complete. Hind wing suffused with sordid scales, fading near base, and fringe with transverse band. Abdomen sordid.

TYPE MATERIAL

Lacinipolia viridifera McDunnough: The Canadian National Museum provided photographs of the genitalia and adults; therefore, label data for each of the following types is according to McDunnough (1937).

Holotype, male; Label Data - "S. Fork Cave Cr., Chiricahua Mts., Ariz., May 24, 1934 (G. & J. Sperry); No. 4242 in Canadian National Collection, Ottawa."

Allotype, female; Label Data - "Huachuca Mts., Cochise Co. Ariz. June 1, 1910 (V. L. Clemence) (ex coll. Wolley-Dod) in Canadian National Collection, Ottawa." Paratypes: "5 males, 5 females, same data as allotype, May 22, 26, June 1, 6, 9, in Canadian National Collection (one male to be deposited in the United States National Museum), 6 females, Huachuca Mts., Ariz.; 2 females, Redington, Ariz.; 2 females, Palmerlee, Ariz.; 1 female, Chiricahua Mts., Ariz; all in United States National Museum, ex Coll. Barnes."

SPECIMENS EXAMINED (308)

ARIZONA: Cochise Co., Miller Canyon (125:LACM), Palmrise (2:LACM), Pinery (9:LACM), South Fork (81:LACM), S.W. Research Station (56:LACM); Coconino Co., Chiricahua Mts. (6:LACM), Parks (1:LACM); Gila Co., Christopher Creek (3:LACM), Kohl's Ranch (1:LACM), Tonto Creek (8:LACM); Graham Co., Graham Mt. (3:LACM); Santa Cruz Co., Madera Canyon (9:LACM), Pena Blanca (1:LACM); Yavapai Co., Prescott (2:LACM).

CALIFORNIA: San Bernardino Co., Madera Canyon (1:LACM).

RECOGNITION CHARACTERS

Male viridifera are separated from other superficially similar Lacinipolia by the even pale green color of the

fore wing plus the immaculate hind wing. The male genitalia is quite distinctive, having the cucullus relatively small, somewhat truncate and pointed on one side, and having an unarmed aedaeagus. Females are slightly more difficult to separate but generally can be distinguished by the minute orbicular and sordid hind wing.

DISTRIBUTION

Arizona, California.

Lacinipolia implicata McDunnough

(Figs. 132, 195, 313-314)

Lacinipolia implicata McDunnough, 1937a:178; McDunnough
1938:71.

Mamestra implicata (McDunnough). Forbes, 1954:92.

Type Locality: "New Jersey"

DESCRIPTION

Male. Palpi white, suffused with blackish scales on outer sides of segments one and two. Antennae simple, pubescent. Front, collar and thorax largely white with slight greenish shade; the former with black spot next to each eye, the collar with a black transverse median band. Thorax with some sprinkling of black scales and black lines. Abdomen grayish. Fore wing concolorous with thorax but median area contrastingly darker and brownish. Basal line wavy, extending down to basal dash. Antemedial line black, outwardly oblique, then gently curving outward to middle, then dentate on 2A. Post-medial line black, marked by two dark spots at costa, broadly convex around reniform, then inwardly oblique to middle of inner margin and denticulate on veins. Median space brownish and much broader on upper half with lighter brown between orbicular and reniform.

Reniform upright, pale, scarcely constricted and top outline obsolescent. Orbicular small, round pale spot. Claviform obsolescent. Subterminal line arises as dark oblique costal dash, then marked only by trace of black line. Basal dash curves toward costa from its middle. Fringe whitish with two rows of black spots. Hind wing suffused with grayish scales and much paler at base; trace of median band. Fringe pale with transverse band.

Female. Deeper color than male. Thorax with more black sprinkling. Fore wing similar to male but darker, and antemedial lines not as close together at inner margin. Most lines more distinct than on male. Hind wing uniformly sordid.

TYPE MATERIAL

Lacinipolia implicata McDunnough: The Canadian National Museum provided photographs of the genitalia and adults; therefore, label data for each of the following types is according to McDunnough (1937).

Holotype, male; Label Data - "male, Lakehurst, N.J., Sept. 4, (F. Lemmer); No. 4241 in the Canadian National Collection, Ottawa." Allotype: "female, Black Mts., N.C. Sept. 15 (Beutenmuller), (ex. Coll. Wolley-Dod) in the Canadian National Collection, Ottawa." Paratypes: "1 male, Lakehurst, N.J., Sept. 10 (F. Lemmer); 1

male, Knoxville, Tenn., Sept. 11, 1928; 1 male, Black Mts., N.C. (Beutenmuller); 4 females, Black Mts., N.C., Sept 10, March 18 (Beutenmuller). All these in the Canadian National Collection, Ottawa. Three males, Ramona, Mich., Aug. 20, 24 in Coll. Comstock, Los Angeles, Calif. One male, Texas; 2 males Clarksville, Tenn., Sept. 23, Oct. 11; 1 female, Southern Pines, N.C., Oct. 1-7 (Coll. Barnes); 2 males, 1 female, Plummer's IIs., Md., Aug. 31, Sept. 4, 5; 3 males, 2 females, Washington, D.C., Sept. 6, 8, 21; 3 females, New Brighton, Pa., Sept. 1, 5, 14 (H. D. Merrick) (Coll. Barnes). All these in the United States National Museum.'

SPECIMENS EXAMINED (55)

DISTRICT OF COLUMBIA: Washington (2:CNCI), (3:CMIC).

MICHIGAN: Alpena Co. (1:MSUC); Clinton Co., Bath (1:MSUC); Grand Traverse Co., (2:MSUC); Kalamazoo Co. (13:MSUC); Lenawee Co. (4:MSUC); St. Joseph Co. (1:MSUC); Co. undet., Ramona (1:CNCI), (1:CMIC), (1:LACM).

MISSISSIPPI: Warren Co., Bovina (2:BKMC).

NEW JERSEY: Camden Co., Clementon (1:CMIC); Hudson Co., Newark (1:CMIC); Ocean Co., Lakehurst (1:CMIC), (1:LACM), (1:CNCI); Co. undet., Lucaston (1:CMIC), New Lisbon (2:LACM).

NEW YORK: Essex Co. (2:CMIC).

NORTH CAROLINA: Harnett Co., Southern Pines
(1:CNCI); Co. undet., Black Mts. (1:CNCI).

MARYLAND: Plummer's IIs. (1:CNCI).

PENNSYLVANIA: Beaver Co., New Brighton (3:CMIC),
(3:CNCI); Lakawanna Co., Scranton (1:CMIC); Washington
Co., Charleroi (1:CMIC).

TENNESSEE: Knox Co., Knoxville (1:CNCI); Montgomery
Co., Clarksville (1:CNCI).

RECOGNITION CHARACTERS

Implicata has previously been confused and found in collections under the name laudabalis and is figured by Holland (1903:Pl. 24, Fig. 1) under this name. Superficially, the males are distinguished by the close proximity of the antemedial and postmedial lines at the inner margin, and the female by the dark hind wing. Both male and female genitalia also exhibit good diagnostic characters, making their identification much easier. The male genitalia has the ampulla lacking and the clasper is broad at base, tapering on distal portion to half the width of its base; and the peristitium of the female has a central broad inverted "v" beneath it.

DISTRIBUTION

Michigan, Mississippi, New Jersey, New York, North Carolina, Maryland, Pennsylvania, Tennessee, Washington, D.C.

Lacinipolia explicata McDunnough

(Figs. 134-135, 192, 315-316)

Lacinipolia explicata McDunnough, 1937a:181; McDunnough, 1938:71.

Mamestra explicata (McDunnough). Forbes, 1954:92.

Type Locality: "Texas"

DESCRIPTION

Male. Palpi cream, suffused with dark brown on outer sides of segments one and two. Antennae simple, pubescent. Front white to cream with dark spot next to each eye. Collar an admixture of white, cream and brown scales with transverse dark band near apex. Thorax an admixture of black, white, gray and olive-green with lateral sides mostly white with dark border on lower edge. Abdomen fuscous. Fore wing concolorous with thorax. Median area contrastingly darker and area beyond postmedial line paler than area before antemedial line. Basal line wavy with border on outer edge white and extending down to basal dash. Nearly straight antemedial line, oblique to inner margin and partially bordered by white on inner side. Antemedial area in shades of olive-green to light brownish. Postmedial line weakly sinuate with a slight tooth at each vein.

Median area olive to brown. Reniform large, scarcely constricted and darker than orbicular; claviform obsolescent. Orbicular small, round, filled with olive-green. Subterminal line marked only by small dark spots and dashes. White scales divide basal dash. Fringe pale, with two vague rows of spots. Anal dash present as broad brown band. Hing wing white with sordid scales suffused toward costal and outer margins and along veins. Fringe white with wavy transverse band.

Female. Overall considerably darker and more distinctly marked than male. Orbicular and reniform nearly obscure but still traceable.

TYPE MATERIAL

Lacinipolia explicata McDunnough: The Canadian National Museum provided photographs of the genitalia and adults; therefore, label data for each of the following types is according to McDunnough (1937).

Holotype, male; Label Data - "Kerrville, Tex., (ex. Coll. Barnes), in the United States National Museum." Allotype, female; Label Data - "Arkansas, No. 4240 in Canadian National Museum Collection (ex. Coll. Wolley-Dod." Paratypes; "1 male, Kentucky (1.IX.99) (ex.

Coll. Barnes); 1 male, Clarksville, Tenn. (24.IV.1914); 1 female, Texas (Belfrage) (Coll. C. V. Riley); 1 female, Kerrville, Tex. (Coll. Barnes); 1 female, Kentucky (Sept. 5, 1899) (Coll. Barnes); 1 female, Kentucky (Coll. Barnes); 2 females, N. Carolina. All in the collection of the United States National Museum except the first-named males and the second female, both of which are in the Canadian National Collection through the courtesy of the authorities of the United States National Museum."

SPECIMENS EXAMINED (20)

ARKANSAS: Saline Co., Benton (1:LACM); Co. undet. (1:CNCI).

KENTUCKY: Co. undet. (3:CNCI).

MISSISSIPPI: Warren Co., Bovina (7:BKMC).

NORTH CAROLINA: Harnett Co., Southern Pines (1:LACM); Co. undet. (1:USNM).

TENNESSEE: Montgomery Co., Clarksville (1:USNM).

TEXAS: Kerr Co., Kerrville (1:USNM), (1:CNCI); Wilson Co., Springs (2:LACM); Co. undet., Belfrage (1:USNM).

RECOGNITION CHARACTERS

This species is readily separated from its siblings by the broad dark dash above the anal angle that extends

from outer margin almost to postmedial line, and the basal area is shaded darker than the subterminal area. The aedaeagus is unique also in having a single long rostellum projecting down away from the base of vesica, and the periostium of the female is in the shape of a large, swollen lip or flange.

DISTRIBUTION

Arkansas, Kentucky, Mississippi, North Carolina, Tennessee, Texas.

Lacinipolia quadrilineata (Grote)
(Figs. 136-137, 139, 197, 317-318)

Mamestra (Dianthoecia?) 4-lineata Grote, 1873a:140;

Smith, 1891a:258. Mayr, et al (1953) state that
"numbers have no status in nomenclature"

Mamestra quadrilineata Grote. Smith, 1891a:41; Dyar,
1902:154.

Polia quadrilineata (Grote). Barnes and McDunnough,
1917:51.

Lacinipolia quadrilineata (Grote). McDunnough, 1938:71.

Type Locality: "California"

Polia cinereovirides Strand (described as abberation
of laudabilis), 1916:29.

Lacinipolia cinereovirides (Strand). McDunnough, 1938:71
(as abberation of quadrilineata).

Type Locality: "California"

DESCRIPTION

Since this is a highly variable species, this
description is based on the "typical" specimen.

Male. Palpi cream, suffused with luteous scales
on outer lateral sides. Antennae simple, pubescent.
Front cream with dark spot near each eye. Collar and

thorax admixture of cream, blackish and brown scales, the former with a black transverse median band. Abdomen darker than thorax. Fore wing concolorous with thorax, maculation superficially appears diffuse, but most lines traceable. Basal line obsolescent. Antemedial line not noticeably dentate except on 2A, outwardly oblique from costa to Cu_2 , then inwardly oblique to inner margin. Postmedial line convex around reniform, nearly touching bottom edge, then oblique to inner margin and denticulate on most veins. Subterminal line obsolescent. Median area darkest. Reniform upright, not constricted, irregular broken dark outline and pale filled. Orbicular oval, oblique, pale filled. Claviform concolorous, dark outline. Basal dash present, typical. Distinct dark broad dash above anal angle immediately below Cu_2 extending from outer margin to postmedial line. Veins in subterminal area marked by scattered dark scales. Fringe concolorous. Hind wing white with sordid scales along outer margin and veins.

Female. Very similar to male but slightly darker. Markings more prominent. Although hind wing white as found in male, there are more sordid scales along outer margin and veins. Fringe white with faint band.

TYPE MATERIAL

I have not seen the types of quadrilineata or cinereovirides; however, I have studied the original description of quadrilineata and seen specimens labeled by J. H. McDunnough who did see the type. I am quite confident about my determination of quadrilineata and I have accepted McDunnough's (1938) synonymy of cinereovirides.

SPECIMENS EXAMINED (117)

CALIFORNIA: Inyo Co. (1:LACM), Pine Creek Canyon (1:LACM), Independence (1:LACM); Los Angeles Co. (26:LACM), Beverly Hills (4:LACM), Beverly Terrace (1:LACM), Burbank (2:LACM), Glendora (1:LACM), Malibu (1:LACM), Gabriel Mts. (2:LACM), Verdugo (1:LACM); Mendocino Co., Point Arena (5:LACM); Orange Co., Avalon (1:LACM); Riverside Co., Coachella Valley (1:LACM), Chino Canyon (1:LACM), Ildyllwild (1:LACM), Palm Springs (1:LACM), Perris (5:LACM), Riverside (5:LACM); Santa Barbara Co., Mohave Desert (1:LACM), Santa Barbara (1:LACM), Summerland (9:LACM); San Bernardino Co., Cajon Wash (3:LACM), Upland (4:LACM); Santa Clara Co., Alma (6:LACM); Santa Cruz Co. (4:LACM); San Diego Co. (1:LACM), San Diego (2:LACM); San Luis Obispo Co., Paso Robles (5:LACM); Sonoma Co., Petaluma (3:LACM); Tulare Co.

(1:LACM), Exeter (1:LACM); Ventura Co., Ventura (1:LACM); Co. undet., Glen Ivy (1:LACM), La Cruz (1:LACM), S. Catalina IIs. (2:LACM), Yosemite National Park (3:LACM).

OREGON: Benton Co., Corvallis (8:LACM).

RECOGNITION CHARACTERS

Superficially identical to martini, but quadrilineata lacks the reddish-brown tinge of martini. The cucullus of the male genitalia is unlike that of all other Lacinipolia except martini in being short, truncate and no wider than neck, and extremely small compared to remainder of valve. Although quadrilineata and martini are superficially nearly identical, the male and female genitalia present distinct differences. A summary of these differences follows:

L. quadrilineata (male) - base of vesica with two diverticula and spine at tip of aedaeagus twice as long as aedaeagus is wide.

L. martini (male) - base of vesica with one diverticulum and spine at tip of aedaeagus only slightly longer than aedaeagus is wide.

L. quadrilineata (female) - lateral plate-like process on ductus bursae immediately below periostium.

L. martini (female) - ductus bursae without a lateral plate-like process.

It should be further noted that both martini and quadrilineata are slightly similar in wing maculation to some forms of stricta and marinitincta; however, both of the latter lack the heavy black streak above the outer angle and have sordid hind wings.

DISTRIBUTION

California, Oregon.

Lacinipolia martini New Species

(Figs. 138, 168, 196, 319-320)

DESCRIPTION

Male. Palpi cream, suffused with blackish scales on outer lateral sides. Antennae simple, pubescent. Front luteous with dark spot near each eye. Collar and thorax admixture of cream, blackish and brown scales, the former with prominent black transverse median band. Abdomen darker than thorax. Fore wing heavily suffused with dark scales and with a reddish-brown tinge. Basal line obsolescent. Antemedial line similar to quadrilineata. Postmedial line nearly straight its length, beginning from near apex of wing and running obliquely to inner margin, distinctly denticulate. Ordinary spots and dashes not noticeably different from quadrilineata. Fringe concolorous. Hind wing immaculate.

Female. Nearly identical to male but slightly darker.

TYPE MATERIAL

Lacinipolia martini New Species: Holotype, male (LACM); Label Data - Tag 1, "May 24, 1962, Madera Canyon, Santa Rita Mts., Santa Cruz Co., Ariz. Lloyd M. Martin," Tag 2, "Genitalia mounted on slide no. 748,

Lloyd M. Martin," Tag 3, "Holotype L. martini C. L. Selman, '75." Allotype, female (LACM); Label Data - Tag 1, "May 18-19, 1961, Jones Water Camp Ground, nr. Seneca, Gila Co., Arizona. R. Reid & W. Rees," Tag 2, "Genitalia mounted on slide no. 749, Lloyd M. Martin," Tag 3, "Allotype L. martini C. L. Selman, '75." Paratypes; 2 males, 2 females (LACM). "May 24, 1962, Madera Canyon, Santa Rita Mts., Santa Cruz Co., Ariz. Lloyd M. Martin."

SPECIMENS EXAMINED (152)

ARIZONA: Cochise Co., Chiricahua Mts. (25:LACM), Wilcox (1:LACM); Gila Co., Mogolion Rim (1:LACM), Payson (2:LACM), Seneca (13:LACM); Maricopa Co., Wickesburg (3:LACM); Pima Co., Santa Catalina Mts. (4:LACM); Santa Cruz Co., Pena Blanco (8:LACM), Santa Rita Mts. (48:LACM); Co. undet., Santa Rita Mts. (29:LACM).

TEXAS: Jeff Davis Co., Davis Mts. St. Pk. (1:LACM), Fort Davis (13:LACM); Randall Co., Palo Duro Canyon State Park (4:LACM).

RECOGNITION CHARACTERS

The comments under quadrilineata adequately include this species.

DISTRIBUTION

Arizona, Texas.

Lacinipolia tricornuta McDunnough

(Figs. 140-141, 193, 311-312)

Lacinipolia tricornuta McDunnough, 1937a:184. (NOTE:

Undoubtedly McDunnough forgot to list his own species (tricornuta) in his check list since he listed all of the other species he had described in his 1937 paper.)

Type Locality: "Arizona"

DESCRIPTION

Palpi white, suffused with blackish scales on segments one and two except apical portion of second. Antennae simple, pubescent. Front and collar white, the former with a trace of spot near each eye, and latter with typical transverse bands. Thorax largely white with sprinkling of black scales and some black lateral edges, central posterior portion luteous. Fore wing concolorous with thorax, most lines appearing single. Basal line wavy, black with white filling. Antemedial line wavy but nearly straight its length, black. Post-medial line black followed by white, distinctly dentate on veins. Subterminal line broken, irregular, marked with white, dark wedges along inner edge.

Reniform outlined with black, top edge obsolete, pale filled. Orbicular small, black outline, pale filled. Orbicular small, black outline, pale filled. Median area darkest, suffused with purplish scales on upper portion. Distinct dark anal patch. Basal dash black, broken by white of basal line. Fringe white, with irregular broken wavy median line. Hind wing white.

Female. Distinctly darker and more contrasting than male. Maculation similar to male. Hind wing sordid throughout, but slightly paler toward base.

TYPE MATERIAL

The Canadian National Museum provided photographs of the genitalia and adult of the holotype; therefore, label data is according to McDunnough (1937).

Holotype, male; Label Data - "Peach Spgs., Ariz., May 30, 1934 (G. & J. Sperry); No. 4249 in the Canadian National Collection, Ottawa."

SPECIMENS EXAMINED (41)

ARIZONA: Cochise Co., Chiricahua Mts. (8:LACM), Miller Canyon (19:LACM), South Fork (4:LACM); Mohave Co., Peach Spgs. (1:CNCI).

COLORADO: Archuleta Co., Piedra Camp (1:LACM).

NEW MEXICO: Bernalillo Co., Laguna (1:LACM).

TEXAS: Brewster Co., Alpine (2:LACM); Jeff Davis Co.,
Fort Davis (5:LACM).

RECOGNITION CHARACTERS

Tricornuta most closely resembles some forms of strigicollis and in some cases is inseparable from it if only wing coloration and maculation are used; however, separation can be accomplished through use of the male and female genitalia which possess excellent characters. The aedaeagus of tricornuta is armed with two or three long, thin rostellae at its apex while the rostellae of strigicollis number five or more and are minute. The periostium of tricornuta is heavily sclerotized, with lateral expansions, but strigicollis has a lightly sclerotized periostium without any expansions.

DISTRIBUTION

Arizona, Colorado, New Mexico, Texas.

Lacinipolia strigicollis (Wallengren)
(Figs. 142, 144-147, 198, 325-332, 335-336)

Hectara strigicollis Wallengren, 1860:170; Smith,
1891b:274.

Mamestra strigicollis (Wallengren). Smith, 1891a:41;
Dyar, 1902:155 (as synonym of laudabilis).

Polia strigicollis (Wallengren). Barnes and McDunnough,
1917:51.

Lacinipolia strigicollis (Wallengren). McDunnough,
1938:71.

Type Locality: "California"

Mamestra illaudabilis Grote, 1875c:29; Grote, 1882a:27
(as variation of laudabilis); Smith, 1891a:41 (as
subspecies of laudabilis); Smith, 1891b:259 (as
variation of laudabilis); Dyar, 1902:155 (as sub-
species of laudabilis). NEW SYNONYMY.

Polia illaudabilis (Grote). Barnes and McDunnough,
1917:51.

Lacinipolia illaudabilis (Grote). McDunnough, 1938:71.

Type Locality: "California, Vancouver Island"

Mamestra alboguttata Smith, 1877:85; Smith, 1891b:260;
Dyar, 1902:155. NEW SYNONYMY.

Polia alboguttata (Smith). Barnes and McDunnough,
1917:51.

Lacinipolia alboguttata (Smith). McDunnough, 1938:71
(as subspecies of illaudabilis).

Type Locality: "Oregon"

Mamestra restora Smith, 1910b:156. NEW SYNONYMY.

Polia restora (Smith). Barnes and McDunnough, 1917:51.

Lacinipolia restora (Smith). McDunnough, 1938:71 (as
subspecies of illaudabilis).

Type Locality: "British Columbia"

Polia buscki Barnes and Benjamin, 1927:5. NEW SYNONYMY.

Lacinipolia buscki (Barnes and Benjamin). McDunnough,
1938:71

Type Locality: "Texas"

DESCRIPTION

Male. An extremely variable species, thus description is for "typical" strigicollis. Palpi white, suffused with sordid scales. Antennae simple, pubescent. Front white with dark spot near each eye. Collar cream with typical dark band. Thorax creamish, irrorated with scattered dark scales. Abdomen darker than thorax. Fore wing concolorous with thorax, with most lines geminate and pale filled. Basal line wavy. Antemedial

line somewhat straight its length with two distinct teeth, one on Cu-M vein and the other on 2A vein. Postmedial line convex around, then slightly concave under reniform, dentate on each vein. Subterminal irregular, marked by pale and dark scales. Median area distinctly darkest. Reniform upright, constricted, dark, narrow outline and pale filled. Orbicular small, dark outline, pale filled. Claviform irregular outline, pale filled. Fringe with two rows of spots. Basal dash dark, usually divided. Hind wing immaculate except few scattered sordid scales along outer margin. Fringe white, faint band.

Female. Maculation similar to male, but more contrasting. Distinctly darker than male, especially noticeable on hind wing which is sordid with darker veins and median band on fringe.

TYPE MATERIAL

Much confusion has arisen in the past over this species. Smith (1891) could not ascertain what species Wallengren (1860) was describing and therefore simply reproduced his original description of strigicollis under the heading "Species not identified." Then

McDunnough (1937a) corresponded with Professor Aurivillius at the Stockholm Museum in an attempt to find the type of strigicollis. Aurivillius responded that it could not be located. Since the original publication states that it was deposited in the Stockholm Museum, I must conclude that it is lost. After examining all of the California Lacinipolia, the state from which strigicollis was described, I believe that Wallengren's description fits what had been previously called illaudabilis; however, the name strigicollis has priority.

Lacinipolia strigicollis (Wallengren): Neotype (here designated), male (LACM); Label Data - Tag 1, "Aug. 20-Sept. 20, 1933, Los Gatos, Santa Cruz Co., Calif. A. J. Kusche," Tag 2, "Genitalia mounted on slide no. 61-343, Lloyd J. Martin," Tag 3, "Neotype L. strigicollis C. L. Selman '75." Will be deposited in the LACM.

I have not seen the types of illaudabilis or alboguttata; however, after studying their original descriptions and several papers concerning their placement as variations of the same species (McDunnough, 1927, 1937a; Smith, 1910), I have no hesitation in placing them as synonyms of strigicollis.

Lacinipolia restora (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "Kaslo, B.C., VII-10," Tag 2, "J.B.

Smith Collection, Rutgers," Tag 3, "Mamestra restora ♀ type, Sm.," Tag 4, "Lectotype Mamestra restora Sm. by E. L. Todd."

Lacinipolia buscki (Barnes and Benjamin): Holotype, male; Label Data - Tag 1, "near Alpine, Tex. 15-30 May 26," Tag 2, "Barnes Collection," Tag 3, "351," Tag 4, "Polia buscki, Holotype ♂ B&Benj."

SPECIMENS EXAMINED (701)

ARIZONA: Cochise Co., Cave Creek Ranch (4:LACM); Coconino Co. (6:LACM); Gila Co., Roosevelt Lake (2:LACM), Seneca (2:LACM); Mohave Co. (2:LACM); Pima Co. (1:LACM), Peppersauce Canyon (7:LACM), Tuscon (1:LACM); Santa Cruz Co. (5:LACM), Madera Canyon (3:LACM), Nogales (1:LACM); Yavapai Co., Bagdad (2:LACM); Co. undet., Baby Mills? (3:LACM), Brown Canyon (12:LACM), Madera Canyon (14:LACM), White Mts. (2:LACM).

CALIFORNIA: Contra Costa Co., Walnut Creek (6:LACM); Inyo Co. (14:LACM), Alabama Hills (1:LACM), Bailey Peak (1:LACM), Darwin (8:LACM), Long Pine (7:LACM), Independence Creek (2:LACM); Kern Co. (1:LACM), Greenhorn Mt. (1:LACM), Monolith (1:LACM), Ransburg (1:LACM), Walker Pass (1:LACM); Lake Co. (1:LACM), Anderson Springs (1:LACM); Los Angeles Co. (36:LACM), Benedict Canyon (1:LACM), Beverly Hills (2:LACM), Buckhorn (6:LACM), Buckhorn Flats (1:LACM),

Eagle Rock (1:LACM), Glendale (2:LACM), Gorman (1:LACM),
 Mint Canyon (6:LACM), Mt. Lowe (3:LACM), Pearblossom
 (4:LACM), Santa Monica (1:LACM), Tanbark Flat (1:LACM),
 Verdugo (2:LACM); Mono Co. (2:LACM); Orange Co. (3:LACM),
 San Juan (2:LACM); Placer Co. (2:LACM); Riverside Co.
 (4:LACM), Calvin Hills (1:LACM), Palm Springs (3:LACM),
 Perris (6:LACM), Riverside (1:LACM); Santa Barbara Co.
 (3:LACM), Santa Barbara (2:LACM), Summerland (10:LACM);
Santa Clara Co. (1:LACM), Los Gatos (2:LACM), San
Bernardino Co. (15:LACM), San Bernardino Mts. (1:LACM),
 Victorville (1:LACM); Santa Cruz Co., Patagonia (1:LACM);
San Diego Co. (1:LACM), San Diego (7:LACM); San Luis Co.,
 San Miguel Is. (45:LACM); Shasta Co., Hat Creek (1:LACM);
Sierra Co., Sierra City (1:LACM); Sonoma Co., Santa
 Rosa (47:LACM); Ventura Co., Ventura (2:LACM), Wheeler
 Springs (1:LACM); Co. undet., Anacapa Island (33:LACM),
 Clark Mt. (1:LACM), Fallsvale (5:LACM), Karenville (1:LACM),
 Lassen (1:LACM), Pass Rebles? (1:LACM), Panamint Mts.
 (8:LACM), Providence Mts. (1:LACM), Santa Catalina Island
 (1:LACM), Santa Cruz Island (101:LACM), S. Nicolas Is.
 (1:LACM), Wildrose Canyon, Panamint Mts. (8:LACM), Willet
 (1:LACM).

COLORADO: Moffat Co. (1:LACM); Co. undet. (3:LACM).

NEVADA: Clark Co. (1:LACM); Elko Co. (1:LACM), Jarbidge (1:LACM); Nye Co. (1:LACM), Jett Canyon (12:LACM), Kinston Canyon (36:LACM), Pahrump (1:LACM), Pinecreek (4:LACM); Co. undet., Lehman Creek (2:LACM), Pine Mts. (1:LACM).

NEW MEXICO: McKinley Co., Chaco Canyon National Monument (78:LACM); San Juan Co. (16:LACM); Co. undet. Fever Spring (3:LACM), Frijoles Canyon (5:LACM).

UTAH: Beaver Co. (1:LACM), Beaver (1:LACM); Iron Co., Cedar City (1:LACM); Juab Co., Eureka (19:LACM), Trout Creek (1:LACM); Utah Co., Provo (1:LACM); Washington Co., Hurricane (2:LACM); Co. undet. (2:LACM).

RECOGNITION CHARACTERS

An extremely variable species, so much so in fact, I thought it advisable to photograph ten of these variants (Figs. 325-332, 335-336). Since different variations of this species are similar to many different Lacinipolia, it is best to examine the genitalia. The valve of the male genitalia has a narrow, long neck to the cucullus. The clasper is quite broad and bulbous on basal two-thirds and tapered on distal third. The ampulla is finger-like and projects beyond clasper, and the tip of the aedaeagus

(base of vesica) has numerous (5 or more) small spines. The perioestium of the female genitalia is weakly sclerotized, and not modified; however, it is expanded somewhat balloon-like.

The most closely related is dilatata, both in wing maculation and genitalia. See comments for their separation under the "Recognition Characters" of dilatata.

DISTRIBUTION

Arizona, California, Colorado, Nevada, New Mexico.

Lacinipolia dilatata (Smith) New Combination

(Figs. 143, 148-149, 194, 321-324)

Mamestra dilatata Smith, 1900:464; Dyar, 1902:156.

Polia dilatata (Smith). Barnes and McDunnough, 1917:50.

Miselia dilatata (Smith). McDunnough, 1938:72.

Type Locality: "New Mexico"

DESCRIPTION

Palpi cream, suffused with luteous scales. Antennae simple, pubescent. Front cream, with dark spot near each eye. Collar and thorax white, with former having smokey tipped scales and broad black transverse median band, and latter mottled with black and greenish scales. Abdomen luteous gray. Fore wing concolorous with thorax, with most lines geminate and whitish filled. Antemedial line wavy and postmedial line similar to strigicollis. Subterminal line white, broken, irregular, marked by preceding black spots. Median area near same shade as inner and outer third of wing. Reniform upright, almost parallel sided, black margined, white filled with center suffused with greenish scales. Orbicular moderate and claviform small, both similarly shaded as reniform.

Basal line broken, with distal part a distinct oblique black mark. Fringe with two rows of spots. Hind wing white with sordid scales along extreme outer margin and veins. Fringe white with median band.

Female. Similar to male but slightly darker and more contrasting.

TYPE MATERIAL

Lacinipolia dilatata (Smith): Holotype, female (USNM); Label Data - Tag 1, "N. Mex.," Tag 2, "Collection J.B. Smith," Tag 3, "Mamestra dilatata ♀ type," Tag 4, "Type No. 4287 I may have copied this number wrong on my visit to USNM since Smith (1900) published this number as 4827 USNM."

SPECIMENS EXAMINED (122)

NEW MEXICO: (1:USNM).

TEXAS: Randall Co., Palo Duro Canyon State Park (121:LACM).

RECOGNITION CHARACTERS

Although superficially quite similar to several Lacinipolia, probably only strigicollis will be confused for it. Because strigicollis and dilatata are closely related, both in wing maculation and genitalia, the following summary of diagnostic characters will prove helpful:

L. strigicollis (male) - fore wings with median area contrastingly darker than inner and outer third of wings; clasper broad and bulbous on basal two-thirds and tapered on distal third, ampulla finger-like and projecting beyond clasper, tip of aedaeagus (base of vesica) with five or more small spines.

L. dilatata (male) - fore wings with median area near same shade or only slightly darker than inner and outer third of wing; clasper broad and bulbous on basal three-fourths and tapered only at far distal point, ampulla small finger-like, and does not project from beneath clasper or only slightly, and tip of aedaeagus with less than five small spines, at least one of which is quite stout.

L. strigicollis (female) - wing character as in male; also, the periostium weakly sclerotized, and not modified, but expanded somewhat balloon-like.

L. dilatata (female) - wing character as in male; also the periostium heavily sclerotized, with large, wrinkled lip.

DISTRIBUTION

New Mexico, Texas.

Lacinipolia marinitincta (Harvey)

(Figs. 150-152, 181, 333-334)

Mamestra marinitincta Harvey, 1875:273; Grote, 1882a:27;

Smith, 1891a:41; Smith, 1891b:259; Dyar, 1902:154.

Polia marinitincta (Harvey). Barnes and McDunnough,

1917:51.

Lacinipolia marinitincta (Harvey). McDunnough, 1938:71.

Type Locality: "Texas"

Lacinipolia appendicula McDunnough (described as
race of marinitincta), 1937a:178. NEW SYNONYMY.

Type Locality: none given

DESCRIPTION

Male. Palpi cream, suffused with fuscous and luteous scales. Antennae simple, pubescent. Front whitish with faint spot near each eye. Collar cream, with sprinkling of luteous scales and trace of median band. Thorax concolorous with collar. Abdomen slightly darker than thorax. Fore wing concolorous with thorax and most lines appearing single. Overall tinge somewhat pale luteous. Basal line fragmentary, somewhat wavy. Antemedial line convex from costa to top of orbicular, concave around orbicular, then convex from bottom of orbicular to inner margin; distinct tooth on 2A. Postmedial line

broadly convex around reniform, then nearly stright to inner margin, dentate on veins. Subterminal line faint, indicated by scattered antemedial and postmedial line nearly touching along inner margin; pale and white scales. Tendency for whitish spot above anal angle on subterminal line. Median area distinctly darkest, having a purplish-brown tinge. Reniform large, upright, dark outline, pale filled. Orbicular small and around, otherwise similar to reniform. Claviform obsolete. Basal dash black, broad, somewhat long. Fringe concolorous. Hind wing uniformly sordid, veins slightly contrasting. Fringe white, with trace of band.

Female. Darker than male. Antemedial and postmedial lines not nearly as close together at inner margin as found in male, otherwise similar.

TYPE MATERIAL

The type is in the British Museum and J. H. McDunnough examined and compared specimens to it. The specimen that matched it quite well is in the USNM and is labeled as follows: Tag 1, "Kerrville, Texas," Tag 2, "marinitincta Harv., XI (checked type) J. McD (J. H. McDunnough)."

There is no type specimen for appendicula. McDunnough (1937a) simply made the following statement after explaining that some Texas specimens show more contrasted maculation and appear less washed-out on fore wings: "For this apparent race the varietal name appendicula may be used." It should be noted that in the past there were many forms, varieties, abberations and even subspecies that were described by a single sentence or two, and many of these have no status now in taxonomy.

SPECIMENS EXAMINED (85)

ARIZONA: Paradise (1:FMNH).

COLORADO: El Paso Co., Colorado Springs (6:LACM).

NEW MEXICO: Grant Co., Mogolion Rim (3:LACM).

TEXAS: Jeff Davis Co., Fort Davis (13:LACM); Kerr Co., Kerrville (1:LACM); Co. undet., Big Bend National Park (61:LACM).

RECOGNITION CHARACTERS

A variable species. In the male, the closeness of the antemedial and postmedial lines at the inner margin is quite diagnostic. The tip of the aedaeagus has a short, stout spine, as does the base of the vesica,

and there is no ampulla projecting from below the clasper. The periostium of the female has a lip-like sclerotization that is wavy.

DISTRIBUTION

Arizona, Colorado, New Mexico, Texas.

Lacinipolia spiculosa (Grote)

(Figs. 153-154, 337-338)

Mamestra spiculosa Grote, 1883:28; Smith, 1891a:41;

Smith, 1891b:252; Dyar, 1902:154.

Polia spiculosa (Grote). Barnes and McDunnough, 1917:51.

Lacinipolia spiculosa (Grote). McDunnough, 1938:71.

Type Locality: "Arizona"

DESCRIPTION

Male. Palpi largely reddish brown. Front, collar, thorax and fore wing concolorous with palpi; front without typical spot near each eye and collar without band. Antennae simple to weakly serrate. Fore wing with most lines geminate and pale filled. Basal line wavy, dark scales on inner side only. Antemedial line wavy, slight tooth on 2A. Postmedial line outwardly oblique from costa to M_2 vein, then inwardly oblique to inner margin, not denticulate. Subterminal line vague, but few pale scales indicate a wavy line. Cu-M vein pale along discal cell. Reniform upright, narrow, dark outline followed by pale outline, paler filling. Orbicular large, oblique, outlined like reniform but darker filling. Claviform obsolescent. Median area slightly darkest,

subterminal area distinctly lightest. Fringe concolorous. No trace of dashes. Hind wing immaculate, very few scattered sordid scales.

Female. Essentially as male, but slightly darker, especially hind wing which has many sordid scales. Fringe cream with faint band.

TYPE MATERIAL

Lacinipolia spiculosa (Grote): Lectotype (here designated), male (USNM); Label Data - Tag 1, "Arizona," Tag 2, "Col. B. Neumogen," Tag 3, "Type No. 33811, USNM," Tag 4, "Mamestra spiculosa Type Grote," Tag 5, "Lectotype Mamestra spiculosa C. L. Selman, '75."

SPECIMENS EXAMINED (677)

ARIZONA: Cochise Co., Chiricahua Mts. (87:LACM); Gila Co., Mogolion Rim (1:LACM), Payson (8:LACM), Robles Ranch (1:LACM), Tonto Creek (5:LACM); Santa Cruz Co., Madera Canyon (2:LACM), Nogales (1:LACM); Yavapai Co. (243:LACM), Cottonwood (1:LACM), Granite Dells (72:LACM), Prescott (235:LACM); Co. undet., Christopher Creek (8:LACM), Oak Creek (3:LACM).

NEW MEXICO: Otero Co., High Rolls Mts. Park (2:LACM); Sandoval Co., Jemez Mts. (7:CMIC), Jemez Springs (1:CMIC).

RECOGNITION CHARACTERS

This moth is easily distinguished by photographs alone. It is unique in having the Cu-M vein pale along the discal cell.

DISTRIBUTION

Arizona, New Mexico.

Lacinipolia renigera (Stephens)

(Figs. 155, 173, 339-340)

Celaena renigera Stephens, 1829:16.

Mamestra renigera (Stephens). Grote, 1882a:27; Smith, 1891b:250; Dyar, 1902:154; Forbes, 1954:89.

Polia renigera (Stephens). Barnes and McDunnough, 1917:51.

Lacinipolia renigera (Stephens). McDunnough, 1938:70.

Type Locality: "near London"? (Stephens said that three specimens before him were "taken, I believe, near London, many years since."

Celaena herbimacula Guenee (in Boisduval and Guenee), 1852:405; Morris, 1860:39.

Mamestra herbimacula (Guenee). Grote, 1882a:27 (as synonym of renigera); Smith, 1891:250 (as synonym of renigera); Dyar, 1902:154 (as synonym of renigera); Forbes, 1954:89 (as synonym of renigera).

Polia herbimacula (Guenee). Barnes and McDunnough, 1917:51 (as synonym of renigera).

Lacinipolia herbimacula (Guenee). McDunnough, 1938:70.

Type Locality: "Illinois, New York and several other places north of the United States"

Celaena infecta Walker, 1856:263; Morris, 1860:39;
Smith, 1891a:43.

Mamestra infecta (Walker). Dyar, 1902:154 (as synonym
of renigera); Forbes, 1954:89 (as form of renigera).

Polia infecta (Walker). Barnes and McDunnough, 1917:51
(as synonym of renigera).

Lacinipolia infecta (Walker). McDunnough, 1938:70
(as synonym of renigera).

Type Locality: "Illinois"

DESCRIPTION

Male. Palpi cream, suffused with reddish brown.
Antennae simple, pubescent. Front, collar, thorax and
fore wing concolorous with palpi. Abdomen slightly
lighter. Fore wing with lines geminate, some filled.
Greenish bar in basal area extends to antemedial line.
Antemedial line denticulate, especially on 2A. Postmedial
line slightly convex around reniform, then straight to
inner margin, denticulate. Subterminal line irregular,
pale, wavy and fades below Cu_1 . Reniform highly contrast-
ing, indicated by white outline, followed by black,
greenish filled. Orbicular obsolescent, with trace of
black outline. Claviform black. A distinct greenish

bar from postmedial to anal angle. Fringe concolorous. Hind wing sordid to nearly white at base. Fringe sordid, with band.

Female. Maculation almost identical to male. Reddish brown tinge and greenish patches of wing more prominent than male.

TYPE MATERIAL

The location of the types of renigera are unknown to this author; however, the original description of this species by Stephens (1829) leaves no doubt as to its status since it has several highly unique diagnostic characters found in no other Lacinipolia. As for herbimacula and infecta, I am accepting the synonymy of many previous authors.

SPECIMENS EXAMINED (1870)

ARKANSAS: Craighead Co., Jonesboro (436:CLSC), Lawrence Co., Ravenden (83:CLSC); Hempstead Co., Hope (5:LACM).

CANADA: Ontario, Thunder Bay (3:MSUC)

COLORADO: Arapaho Co., Denver (1:LACM); Garfield Co. (1:FMNH); Jefferson Co., Edgewater (1:FMNH); La Plata Co. (1:MSUC), Durango (1:LACM); Teller Co., Big Springs Ranch (4:LACM).

ILLINOIS: Cook Co. (3:FMNH), Evanston (2:FMNH), Chicago (5:FMNH), Palas Park (2:FMNH), Park Ridge (2:FMNH); Kane Co., Elgin (1:FMNH); Lake Co., Waukegon (1:FMNH), Marshall Co., Lacon (2:LACM); McHenry Co., Algonquin (5:CMIC), Asperitos Island, Georgian Bay (1:CMIC); Tazewell Co., Tremont (1:FMNH); Co. undet., Edgebrook (2:FMNH).

INDIANA: Bartholomew Co., Hope (1:CMIC); Vermillion Co. (5:MSUC); Wayne Co., Richmond (1:OSUC); Wells Co., Bluffton (2:CMIC).

KANSAS: Douglas Co., Lawrence (14:LACM).

MAINE: Lincoln Co., Ocean Point (1:BKMC); York Co., Kennebunk (14:CMIC).

MASSACHUSETTS: Middlesex Co., Holliston (1:LACM); Co. undet., Magnolia (1:CMIC).

MICHIGAN: Berrien Co., Sodus (2:MSUC); Ingham Co., East Lansing (78:MSUC); Kalamazoo Co., Kalamazoo (5:MSUC); Kent Co., Grand Rapids (1:MSUC); Oakland Co. (8:MSUC); Van Buren Co., Lawton, (1:MSUC), South Haven (1:MSUC), Paw Paw (3:MSUC); Co. undet., Alto (2:MSUC).

MISSISSIPPI: Hinds Co., Jackson (1:LACM); Lee Co., Tupelo (1:BKMC); Rankin Co., Pearl (2:BKMC); Warren Co., Bovina (2:BKMC).

MISSOURI: Jefferson Co. (1:FMNH); St. Louis Co., Webster Grove (3:LACM); Co. undet. (1:LACM).

NEBRASKA: Douglas Co., Omaha (3:OSUC), (2:LACM); Lincoln Co. (4:MSUC); Co. undet., Benson (2:OSUC).

NEW HAMPSHIRE: Coos Co. (1:MSUC); Sullivan Co., Claremont (3:CMIC); White Co., Randolph (4:LACM); Co. undet. (1:CMIC), Cherry Mt. (2:LACM).

NEW JERSEY: Atlantic Co., (1:CMIC); Camden Co., Berlin to Palmyra (1:CMIC); Mercer Co., Princeton (1:CMIC); Ocean Co., Lakehurst (1:LACM).

NEW MEXICO: San Miguel Co., Old Beulah (3:LACM).

NEW YORK: Allegany Co., Cuba (2:MSUC); Herkimer Co., Ilion (1:FMNH); King's Co., Brooklyn (2:LACM); Livingston Co. (2:CMIC); Tompkins Co., Ithaca (1:LACM); Co. undet. (2:CMIC).

NORTH CAROLINA: Co. undet., Doughton Pk. (2:MSUC).

OHIO: Delaware Co. (1:OSUC); Erie Co., Sandusky (1:OSUC); Franklin Co., Columbus (6:OSUC) (27:CLSC), (4:LACM); Greene Co. (1:MSUC); Hamilton Co., Cincinnati (1:OSUC); Morrow Co., Mt. Gilead (14:LACM); Wayne Co. (834:CLSC).

PENNSYLVANIA: Adams Co. (1:CMIC); Allegheny Co., Pittsburg (2:LACM), (82:CMIC), Edgeworth (2:CMIC), Oak Station (15:CMIC), Sharpsburg (2:CMIC), Swissville (6:CMIC), Wall (1:CMIC), Warrendale (5:LACM); Beaver Co., New Brighton (1:CMIC); Butler Co., Slippery Rock (2:CMIC);

Clearfield Co. (1:CMIC); Delaware Co. (1:FMNH); Fayette Co., Ohiopyle (1:CMIC); McKean Co. (6:CMIC); Potter Co. (1:CMIC); Union Co. (1:FMNH); Westmorland Co., Jeanette (25:CMIC); Co. undet., Coatesville (2:OSUC).

RHODE ISLAND: Washington Co., Watch Hill (3:CMIC), Westerly (2:CMIC).

TENNESSEE: Davidson Co., Nashville (3:CMIC).

UTAH: Vintah Co., Vernal (1:CMIC).

VERMONT: Franklin Co. (8:MSUC); Co. undet., Guilford (1:CMIC).

VIRGINIA: Rockingham Co., Dayton (1:CMIC).

WEST VIRGINIA: Co. undet., Cheat Mts. (2:CMIC).

WISCONSIN: Door Co., Bailey's Harbor (3:LACM); Kewanauee Co., Kewanuee (1:FMNH); Marathon Co. (5:MSUC), Wausau (2:LACM); Milwaukee Co., Milwaukee (8:LACM); Oneida Co., Lake Katherine (21:LACM); Co. undet. (1:CMIC).

WYOMING: Park Co. (8:CMIC).

RECOGNITION CHARACTERS

Although this species varies somewhat, there are several unique diagnostic characters, both superficial and genitalic, that remain quite constant. The distinct greenish patch in the basal and subterminal areas, along with the black claviform and contrasting white outline

of reniform are unique to no other Lacinipolia. Also, the shape of the cucullus and clasper in the male genitalia will easily distinguish renigera.

DISTRIBUTION

Widespread over the United States and Canada.

Lacinipolia stricta (Walker)

(Figs. 156, 187, 341-348)

Hadena? stricta Walker, 1865:728.Mamestra stricta (Walker). Smith, 1891a:41 (as synonym of egens); Smith, 1891b:251 (as synonym of egens); Dyar, 1902:154.Polia stricta (Walker). Barnes and McDunnough, 1917:51.Lacinipolia stricta (Walker). McDunnough, 1938:71.

Type Locality: "Vancouver's Isle"

Mamestra cinnabarina Grote, 1874:241; Grote, 1882a:27; Smith, 1891a:41 (as subspecies of egens); Smith, 1891b:251 (as variation of egens); Dyar, 1902:154 (as subspecies of stricta). NEW SYNONYMY.Polia cinnabarina (Grote). Barnes and McDunnough, 1917:51 (as subspecies of stricta).Lacinipolia cinnabarina (Grote). McDunnough, 1938:71 (as subspecies of stricta).

Type Locality: "California"

Mamestra ferrea Grote, 1881:130 (described as variation of cinnabarina); Grote, 1882a:27 (as variation of cinnabarina); Smith, 1891a:41 (as synonym of egens); Smith, 1891b:251 (as synonym of egens); Dyar, 1902:154 (as synonym of stricta).

Polia ferrea (Grote). Barnes and McDunnough, 1917:51
(as synonym of stricta).

Lacinipolia ferrea (Grote). McDunnough, 1938:71 (as
synonym of stricta).

Type Locality: none given

Mamestra circumcincta Smith, 1891b:253; Dyar, 1902:154
(as synonym of olivacea). NEW SYNONYMY.

Polia circumcincta (Smith). Barnes and McDunnough,
1917:51.

Lacinipolia circumcincta (Smith). McDunnough, 1938:71.

Type Locality: "California"

Mamestra tenisca Smith, 1910:92. NEW SYNONYMY.

Polia tenisca (Smith). Barnes and McDunnough, 1917:51
(as subspecies of stricta).

Lacinipolia tenisca (Smith). McDunnough, 1938:71 (as
subspecies of stricta).

Type Locality: "Montana"

Polia kappa Barnes and Benjamin, 1925:12 (described as
race of stricta). Barnes and Benjamin, 1929:185
(proposed name change to papka). NEW SYNONYMY.

Lacinipolia kappa (papka) (Barnes and Benjamin).

McDunnough, 1938:71 (as subspecies of stricta).

Type Locality: "California"

DESCRIPTION

Male. An extremely variable species, thus description

is for the "typical" stricta. Palpi varies from pale reddish to dark brown. Antennae simple, pubescent. Front, collar, thorax, abdomen and fore wing concolorous with palpi. Front with faint spot near each eye. Collar without typical transverse band. Fore wing with ordinary lines geminate but usually appearing as difference in shades. Basal line pale. Antemedial line curved between veins, pale, slight tooth on 2A. Postmedial line convex around reniform, then straight to inner margin. Subterminal line distinct because of difference in shades of subterminal and terminal areas, wavy. Reniform with a distinct white outline and dark filling, sometimes pointed on bottom inner edge. Orbicular and claviform blending with median area, but traceable. Median area slightly darkest. No dashes. Fringe concolorous with terminal area. Hind wing uniformly fuscous. Fringe with trace of transverse band.

Female. Essentially as male, not noticeably darker or more contrasting.

TYPE MATERIAL

Lacinipolia stricta (Walker): The type of stricta is probably in the British Museum and, although I have not seen the type, I have seen numerous specimens labeled by J. B. Smith who states they are conspecific with

the type. Even without having seen these specimens, it is not difficult to identify this clearly marked species.

Lacinipolia cinnabarina (Grote): I have not seen the types (a male and female); therefore, I am following Dyar (1902), Barnes and McDunnough (1917) and McDunnough (1938) in reasoning that this is a form of stricta.

Lacinipolia ferrea (Grote): I have examined a specimen in the USNM labeled as follows: Tag 1, "24-8-10," Tag 2, "Duncans Vanc. Ils. Hanham," Tag 3, "stricta Walk. (ferrea Grt.) X Types J. McD. (J. H. McDunnough)," Tag 4, "Barnes Collection."

Lacinipolia circumcincta (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "Sier. Nev., Cal.," Tag 2, "Collection J.B. Smith," Tag 3, "Lectotype Mamestra circumcincta Sm. by E. L. Todd."

Lacinipolia tenisca (Smith): Lectotype, male (AMNH); Label Data - Tag 1, "Mamestra tenisca Smith, ♂ type," Tag 2, "Bozeman, Mont., Aug 21, 1907," Tag 3, "J. B. Smith Collection, Rutgers," Tag 4, "♂ genitalia mounted on slide by Smith," Tag 5, "Lectotype Mamestra tenisca Sm. by E. L. Todd."

Lacinipolia kappa (papka) (Barnes and Benjamin): This was described as a race of stricta, and I have

examined and concur that kappa (papka) is nothing more than a variation or even possibly a subspecies of stricta.

Barnes and Benjamin (1929) published the following:

Polia stricta kappa B. & Benj. seems preoccupied by Noctua cappa Hbn., placed by Hampson in Polia under the rules that specific and subspecific names have the same status as far as nomenclature is concerned, and that c=k. We propose the anagram papka nom. nov. for kappa B. & Benj. nec cappa Hbn."

I suppose since kappa (papka) and cappa are again in different genera, the name kappa should become valid again; however, because of my placement of kappa as a synonym of stricta, it would be purely academic, and for reference's sake, I shall leave it as found in my list of synonymy.

SPECIMENS EXAMINED (340)

CALIFORNIA: Contra Costa Co., Oakland (1:CMIC); Inyo Co. (10:LACM); Lake Co., Anderson Springs (5:LACM); Los Angeles Co. (1:LACM), Beverly Hills (1:LACM), Longbeach (1:LACM), Los Angeles Gardens (1:LACM), Mint Canyon (2:LACM), San Gabriel (2:LACM); Mono Co., Mono Lake (3:LACM), Yosemite National Park (4:LACM); Placer Co., Ward Creek (10:LACM); Plumas Co., Johnstonville (14:LACM); Riverside Co., Perris (2:LACM); San Diego Co., La Jolla (2:LACM); Santa Barbara Co., Summerland (13:LACM); Santa

Clara Co., Alma (2:LACM), Las Gatos (2:LACM), Palo Alto (1:LACM); Solano Co., Grizzly Island (11:LACM); Sonoma Co., Petaluma (6:LACM); Ventura Co., Ventura (3:LACM); Co. undet., Duncans (1:LACM), Palum (2:LACM), Road Valley (7:LACM).

CANADA: Alberta (4:LACM); British Columbia, Kaslo (1:LACM), Vancouver Island (23:LACM), Victoria (5:LACM).

IDAHO: Okanogan Co., Brewster (1:CMIC), Pateros (8:CMIC); Pierce Co. (1:CMIC); Shoshone Co., Wallace (44:CMIC), (42:LACM), (1:FMNH); Whitman Co., Pullman (1:CMIC).

MICHIGAN: Co. undet. (4:CMIC).

MONTANA: Gallatin Co., Bozeman (2:LACM).

OREGON: Benton Co. (9:LACM); Lane Co., Eugene (17:CMIC); Lincoln Co., Newport (1:FMNH); Marion Co., Salem (4:CMIC); Wallowa Co. (4:LACM); Yamhill Co., McMinnville (1:CMIC) (4:LACM); Co. undet., Chief Joseph Mts. (16:LACM).

UTAH: Toole Co., Stockton (3:LACM); Utah Co., Eureka (1:LACM), Vineyard (30:LACM).

WASHINGTON: King Co., Seattle (2:FMNH); Stevens Co., Colville (2:FMNH); Tacoma Co., Puyallup (1:FMNH); Thurston Co., Yelm (1:FMNH); Whitman Co., Pullman (3:FMNH).

WYOMING: Teton Co., Grand Teton National Park (1:LACM).

RECOGNITION CHARACTERS

A highly variable species, having an overall coloration from pale brown to dark ash gray. Some specimens have the maculation somewhat obsolescent, while others have contrasting markings. One character that holds throughout is the white outline of the reniform; and, nearly always, the orbicular and claviform are obsolescent. The genitalia of the male are identical for all forms examined, and are quite similar to renigera. However, the cucullus of stricta has the lateral edge tapered to a much longer point.

DISTRIBUTION

California, Canada, Idaho, Michigan, Montana, Oregon, Utah, Washington, Wyoming.

Lacinipolia rodora (Dyar) New Combination

(Figs. 11, 157-158, 175, 349-350)

Polia rodora Dyar, 1911:242.

Type Locality: "Mexico"

DESCRIPTION

Male. Palpi whitish, heavily suffused with fuscous scales on outer sides. Antennae broadly bipectinate. Front cream on lower half, brownish on upper half, and trace of dark bar between eyes. Collar an admixture of cream, black and several shades of brown scales, with distinct black transverse median band, followed by lighter subapical band, followed by slightly darker apical band. Thorax and fore wing concolorous with collar. Fore wing with most lines gminate and silvery gray filled. Basal line fragmentary. Antemedial line concave around orbicular, then slightly convex to inner margin, with small tooth on 2A. Postmedial line parallel with outer margin, dentate on veins. Subterminal line irregular, indicated largely by difference in shades. Median area very slightly darkest, but subterminal area distinctly lightest, revealing the silvery gray ground. Reniform upright, kidney shaped, pale outline followed by darker

scales and somewhat dark filled. Orbicular oval, slightly oblique, dark outlined. Claviform partly outlined in black. Fringe slightly darker than subterminal area. Hind wing largely whitish with sordid scales along outer margin and veins. Fringe cream, with trace of band.

Female. Distinctly darker than male, especially noticeable on hind wing which approaches ash gray. Fringe with distinct transverse band. Maculation essentially as male. Antennae simple.

TYPE MATERIAL

Lacinipolia rodora (Dyar): Lectotype (here designated) male (USNM); Label Data - Tag 1, "Mexico City, Mexico, August 1909, R. Muller," Tag 2, "Type No. 12959, USNM," Tag 3, "Polia rodora ♂ type Dyar," Tag 4, "Lectotype Polia rodora Dyar C. L. Selman, '75."

SPECIMENS EXAMINED (212)

ARIZONA: Cochise Co., Brown Canyon (1:LACM), Cave Creek Ranch (10:LACM), Chiricahua Mts. (94:LACM), Ramsey Canyon (9:LACM), South Forks (24:LACM); Graham Co., Wet Canyon (1:LACM); Santa Cruz Co., Madera Canyon (33:LACM), Pena Blanca (2:LACM); Co. undet., Bear Canyon (11:LACM), Portai (1:LACM).

TEXAS: Brewster Co., Alpine (1:LACM); Jeff Davis Co., Davis Mts. (14:LACM), Fort Davis (11:LACM).

RECOGNITION CHARACTERS

The male is easily separated from all other Lacinipolia by the pectinate antennae. The female genitalia have the genital plate very wide anteriorly, the posterior apophyses are twice as long as anterior apophyses, and the periostium is not sclerotized.

DISTRIBUTION

Arizona, Texas.

Lacinipolia fordii New Species

(Figs. 159-161, 164, 351-352)

Type Locality: Arizona

DESCRIPTION

Male. Palpi admixture of cream, brownish and black scales, only slightly lighter inside. Antennae simple, pubescent. Front, collar, thorax, abdomen and fore wing somewhat concolorous with palpi. Front with dark spot near each eye. Collar with typical black band. Thorax with some light gray-tipped scales. Fore wing appears to have silvery tinge, markings geminate. Basal line obsolescent. Antemedial line concave on upper half, convex on lower, appears as single dark line. Postmedial line straight, not denticulate. Subterminal line broadly waved, indicated by a few pale scales but more so by the difference in the shades of the terminal and subterminal area, and marked with white scales above anal angle. Subterminal area lightest, the silvery tinge especially noticeable. Reniform upright, black outline, silvery filled. Orbicular roundish, fragmentary black outline, somewhat lighter filling. Claviform concolorous with irregular outline. Basal dash indistinct. Fringe concolorous with terminal area. Hind wing white with

scattered sordid scales along outer margin and some veins. Fringe white, with trace of band.

Female. Distinctly darker than male, except that hind wing seems to match male. The white of the subterminal line at the anal angle and filling on lower portion of postmedial line contrast against the darker background.

TYPE MATERIAL

Lacinipolia fordi New Species: Holotype, male (LACM):
Label Data - Tag 1, "June 17, 1957, Christopher Creek, Mogolion Rim, Gila Co., Ariz. El. 5800 ft.," Tag 2, "Collected Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Genitalia mounted on slide no. 61-73 Lloyd M. Martin," Tag 4, "Holotype Lacinipolia fordi C. L. Selman, '75." Allotype, female (LACM); Label Data - Tag 1, "June 27, 1957, Parks, Coconino Co., Ariz. El. 7,100ft," Tag 2, "Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Genitalia mounted on slide no. 763 Lloyd M. Martin," Tag 4, "Allotype Lacinipolia fordi C. L. Selman '75." Paratypes, 2 males, 2 females (LACM); Tag 1, "June 27, 1957, Parks, Coconino Co., Ariz. El. 7,100," Tag 2, "Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3,

"Paratype, Lacinipolia fordi C. L. Selman '75." All types will be deposited in the LACM.

SPECIMENS EXAMINED (108)

ARIZONA: Coconino Co., Flagstaff (6:LACM), Parks (84:LACM); Gila Co., Mogolion Rim (2:LACM); Greenle Co., White Mts. (2:LACM).

RECOGNITION CHARACTERS

The maculation of the fore wings and genitalia of fordi most closely resemble that of franclemonti; however, they can easily be separated because fordi lacks the reddish-brown suffusion found on the fore wings of franclemonti.

DISTRIBUTION

Arizona, Colorado.

Lacinipolia franclemonti New Species

(Figs. 162, 353-354)

Type Locality: Arizona

DESCRIPTION

Male. Palpi uniformly dark ash throughout. Antennae simple, somewhat bristled. Front concolorous with palpi, and no trace of typical spot near eye. Collar and thorax concolorous with palpi but with an overall reddish-brown tinge, and the former with a narrow black transverse band. Fore wing concolorous with thorax but reddish-brown tinge more prominent, especially noticeable in subterminal area. Most lines somewhat blending but traceable, geminate. Basal line obsolescent. Antemedial line straight its length, deeply denticulate, brownish filled. Postmedial line slightly convex around reniform, then oblique to inner margin, dark followed by brown outline, denticulate. Subterminal line traceable as a difference in shades, broadly waved, and dentate on some veins, ending at anal angle. Some veins in subterminal area marked with black scales. Reniform upright, kidney shaped, pale followed by dark, thin outline, reddish-brown filled. Orbicular oval, oblique, otherwise similar

to reniform. Claviform obsolescent. Fringe concolorous with terminal area. Hind wing white, scattered sordid scales along outer margin and veins. Fringe white, fragments of band.

Female. Darker than male, slightly noticeable on fore wing. Hind wing white with sordid scales at least on distal third, pale at base, and fringe with distinct median band.

TYPE MATERIAL

Lacinipolia franclemonti New Species: Holotype, male (IACM); Label Data - Tag 1, "June 22, 1957, Christopher Creek, Mogolion Rim, Gila Co., Ariz. El. 5,800 ft.," Tag 2, "Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Genitalia mounted on slide no. 61-77, Lloyd M. Martin," Tag 4, "Holotype Lacinipolia franclemonti, C. L. Selman, '75." Allotype, female (IACM); Label Data - Tag 1, "June 18, 1957, Christopher Creek, Mogolion Rim, Gila Co., Ariz. El. 5,800ft," Tag 2, "Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Genitalia mounted on slide no. 766, Lloyd M. Martin," Tag 4, "Allotype Lacinipolia franclemonti C. L. Selman, '75." Paratypes, 2 males, 2 females (IACM); Tag 1, "June 18, 1957, Christopher Creek, Mogolion Rim, Gila Co., Ariz., El. 5,800ft," Tag 2,

"Collected by Lloyd M. Martin, Robert J. Ford, William A. Rees," Tag 3, "Paratype Lacinipolia franclemonti C. L. Selman, '75." All types will be deposited in the LACM.

SPECIMENS EXAMINED (101)

ARIZONA: Gila Co., Mogolion Rim (101:LACM).

RECOGNITION CHARACTERS

See comments under the "Recognition Characters" of fordi.

DISTRIBUTION

Arizona.

LITERATURE CITED

- Barnes, W. and F. H. Benjamin. 1925a. New and rare
Lepidoptera from the Southwest. Pan Pacific Ent.,
2(1):12-15.
- _____. 1925b. Notes on Arizona Phalaenidae (LEPID.)
Pan-Pacific Ent., 2(1):16-21.
- _____. 1929. Lepidopterological contributions.
Bull. Brooklyn Ent., 24:164-186.
- _____. 1927. New Phalaenidae (LEPID.). Pan-Pacific
Ent., 4(1):4-6.
- Barnes, W. and J. H. McDunnough. 1913. Contributions
to the Natural History of the Lepidoptera of North
America. Decatur, Ill., 2(3):93-164, Pl. 1-9.
- _____. 1917. Check list of the Lepidoptera of
Boreal America. Decatur, Ill., 392 pp.
- Boisduval, J. A. and M. A. Guenee. 1852a. Historie
naturelle des insects. Lepidopteres:Noctuelites.
Vol. 5, 405 pp.
- _____. 1852b. Histoire naturelle des insects
Lepidopteres:Noctuelites. Vol 7, 442 pp.
- Druce. 1881. Biologia Centrali-Americana insects:
Heterocera. 1:275, 3:Pl. 26.
- D'Urban, W.S.M. 1860. A systematic list of Lepidoptera
collected in the vicinity of Montreal. Canadian
Naturalist and Geologist. 5(4):241-266.
- Dyar, H. G. 1902. A list of North American Lepidoptera
and key to the literature of this order of insects.
Bull. U.S. Nat. Mus., No. 52, 723 pp.

- Dyar, H. G. 1911. Descriptions of some Lepidoptera from Mexico. Proc. U.S. Nat. Mus., 38(1742): 229-273.
- Forbes, W. T. M. 1954. Lepidoptera of New York and neighbouring states. Part 3. Mem. Cornell Univ. Agr. Exp. Sta. 329, 433 pp.
- Grote, A. R. 1873a. Description of new North American moths. Bull. Buffalo Soc. Nat. Sci., 1(8):129-140.
- _____. 1873b. A study of North American Noctuidae. Bull. Buffalo Soc. Nat. Sci., 1(7):95-128, Pl. 3.
- _____. 1874a. New species of North American Noctuidae. Proc. Acad. Nat. Sci., Phila., pp. 197-214.
- _____. 1874b. Notes on American Lepidoptera with descriptions of twenty-one new species. Bull. Buffalo Soc. Nat. Sci., 2:145-163.
- _____. 1874c. Descriptions and notes on the Noctuidae. Proc. Boston Soc. Nat. Hist., 16:239-245.
- _____. 1875a. Lepidopterological observations. Can. Ent., 7(12):221-227., Pl. 1.
- _____. 1875b. Additions to the "List of North American Noctuidae." Bull. Buffalo Soc. Nat. Sci., 2:122-223.
- _____. 1875c. Preliminary list of the Noctuidae of California. Can. Ent., 7(1):25-28.
- _____. 1877. VII. On Notcuidae from the Pacific Coast of North America. Bull. Buffalo Soc. Nat. Sci., 3:77-85.
- _____. 1880. New species of North American moths. Can. Ent., 12(10):213-220.
- _____. 1881. The North American species of Mamestra Ochs. Can. Ent., 13(6):126-130.
- _____. 1882a. New check list of North American moths. Trans. Amer. Ent. Soc. Phila., 73pp.

- Grote, A. R. 1882b. On the moths collected by Prof. Snow in New Mexico. Kan. Acad. Sci., 8:45-57.
- _____. 1882c. New moths. Can. Ent., 14(9):169-176.
- _____. 1883. New species and notes on structures of moths and genera. Can. Ent., 15(2):23-31.
- _____. 1888. Some new Noctuidae. Can. Ent., 20(7):128-131.
- Grote, A. R. and C. T. Robinson. 1868. Notes on the North American Lepidoptera in the British Museum and described by Francis Walker. Trans. Amer. Ent. Soc., 2:67-88.
- Gosse, P. H. 1882. On the clasping organ ancillary to generation in certain groups of Lepidoptera. Trans. Linn. Soc. London, 2(2):265-345, Pl. 26-35.
- Hampson, Sir. G. F. 1905. Catalogue of the Lepidoptera Phalaenae in the British Museum (Hadeninae). Vol. 5. British Museum (Natural History), Dept. of Zoology.
- _____. 1918. Descriptions of new genera and species of Amatidae, Lithosidae and Noctuidae. Novitates Zoological, 25:93-217.
- Harvey, L. F. 1875. Observations on North American moths. Bull. Buffalo Soc. Nat. Sci., 2:270-273.
- _____. 1876. New Texan moths. Can. Ent., 8(1):5-7.
- Holland, W. J. 1903. The moth book. Doubleday, Page and Co., New York, 479 pp. (Reprinted 1968 with annotation by A. E. Brower).
- Mayr, E., E. G. Linsley and R. L. Usinger. 1953. Methods and principles of systematic zoology. McGraw-Hill Book Co., New York, 328 pp.
- McDunnough, J. H. 1927. The Lepidoptera of the Seton Lake Region, British Columbia. Can. Ent., 59(9):207-214.
- _____. 1937a. The Laudabilis group of Lacinipolia (LEPID., PHALAENIDAE). Can Ent., 49:177-185.

McDunnough, J. H. 1937b. Notes on North American Noctuid genera. Can. Ent., 49:40-47.

_____. 1938. Check list of the Lepidoptera of Canada and the United States of America. Part I. Mem. Sth. Calif. Acad. Sci., Vol. 1, 275pp.

_____. 1940. Undescribed species and races of Phalaenidae (LEPID.) Can. Ent. 72(10):191-201.

Morris, J. G. 1860. Catalogue of the described Lepidoptera of North America. Smithsonian Misc. Coll. 68p.

Morrison, H. K. 1874a. Descriptions of new Noctuidae. Proc. Boston Soc. Nat. Hist., 17:131-166.

_____. 1874b. List of a collection of Texan Noctuidae with descriptions of new species. Proc. Boston Soc. Nat. Hist., 17:209-221.

_____. 1875. Description of a new North American species of Mamestra, and of a genus allied to Homohadena. Can. Ent., 7(5):90-91.

Rambur, M. P. 1837. Faune entomologique de l'andalousie. Hesperides. 2.

Reverdin, J. L. 1910. Note sur l'armure genitale male de quelques Hesperides palearetiques. Geneve Bull. Soc. Lepidop., 2:1-16.

Smith, J. B. 1887. New genera and species of North American Noctuidae. Proc. U.S. Nat. Mus., 10:450-479.

_____. 1891a. List of the Lepidoptera of Boreal America. Amer. Ent. Soc., 124pp.

_____. 1891b. Contributions toward a monograph of the Noctuidae of temperate North America. Revision of the species of Mamestra. Proc. U.S. Nat. Mus., 14:197-276.

_____. 1895. Descriptions of new species of Noctuidae. Ent. News, 6(10):332-340, Pl. 15.

- Smith, J. B. 1898. Notes on the genus Mamestra Ochs., with descriptions of the new species. Ent. News, 9(10):240-251.
- _____. 1900. A hundred new moths of the family Noctuidae. Proc. U.S. Nat. Mus. No. 1203, 22:413-495.
- _____. 1901. Notes on Mamestra olivacea Morr. and its allies. Trans. Amer. Ent. Soc., 27:230-240, Pl. 10.
- _____. 1903. New Noctuids for 1903. No. 2 with notes on Mamestra and Scotogramma. Jour. N.Y. Ent. Soc., 11:1-22.
- _____. 1905a. New species of Noctuidae for 1905. Jour. N.Y. Ent. Soc., 13(5):188-211.
- _____. 1905b. New species of Noctuidae for 1905 - No. 2. Can. Ent. 37(7):257-261.
- _____. 1906. New species of Noctuidae for 1906 - No. 2. Can. Ent., 38(7):225-238.
- _____. 1910a. New species of Noctuidae for 1910. Jour. N.Y. Ent. Soc., 1:85-98.
- _____. 1910b. Notes on certain species of Mamestra. Ann. Ent. Soc. Amer., 3:154-158, Pl. 23.
- _____. 1913. A new Noctuid (LEPID.). Ent. News. 24(6):273-274.
- Strand, E. 1916. Neue aberrationen der Noctuiden subfamilien Hadeninae, Erastriinae, Catocalinae, Mominae und Phytometrinae. Archiv fur Naturgeschichte. Verlags-Buchhandlung R. Stricker, Berlin. pp. 28-31.
- Stephens, J. F. 1829. Illustrations of British Entomology, Haustellata. Baldwin and Cradock, London 3(1):1-333.
- Strecker, H. 1898. Lepidoptera, Rhopaloceres and Heteroceres; indigenous and exotic, with descriptions and colored illustrations. Reading, Pa. Supplement 1.
- Walker, F. 1856. List of specimens of Lepidopterous insects in the collection of the British Museum, Part 10. British Museum (Natural History), Dept. of Zoology.

Walker, F. 1857. List of specimens of Lepidopterous insects in the collection of the British Museum, Part 11. British Museum (Natural History), Dept. of Zoology.

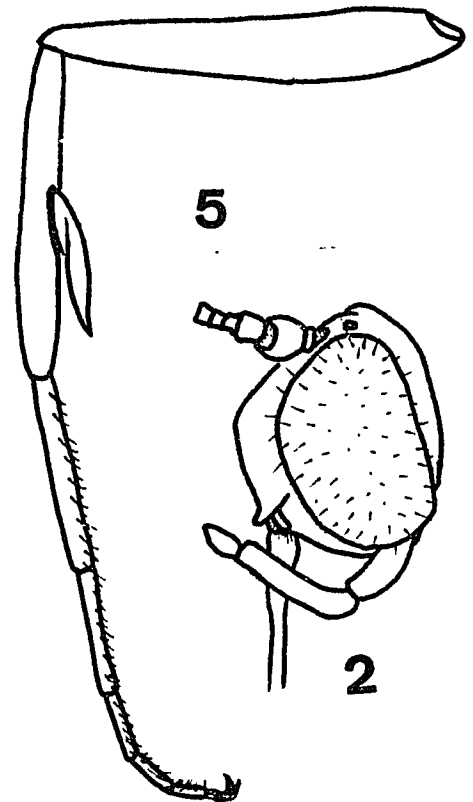
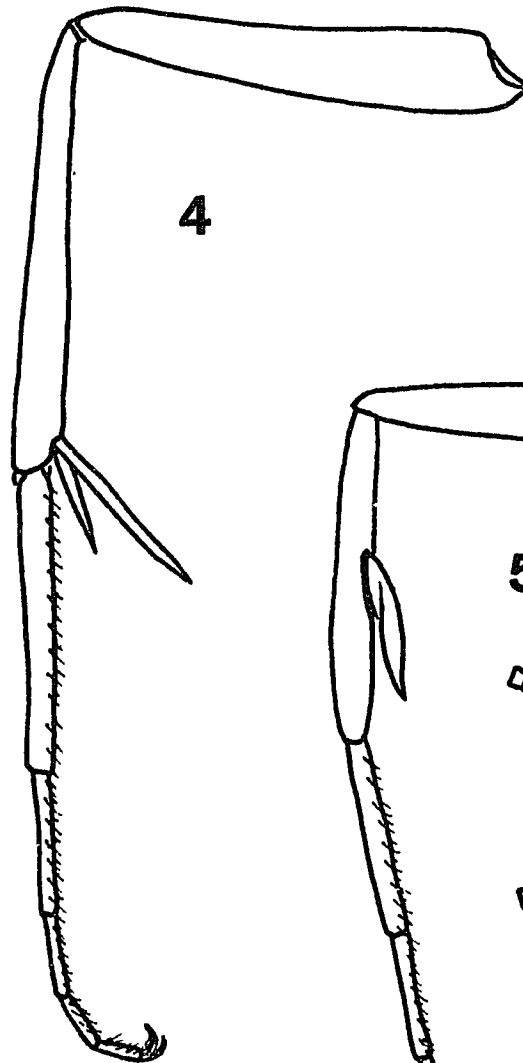
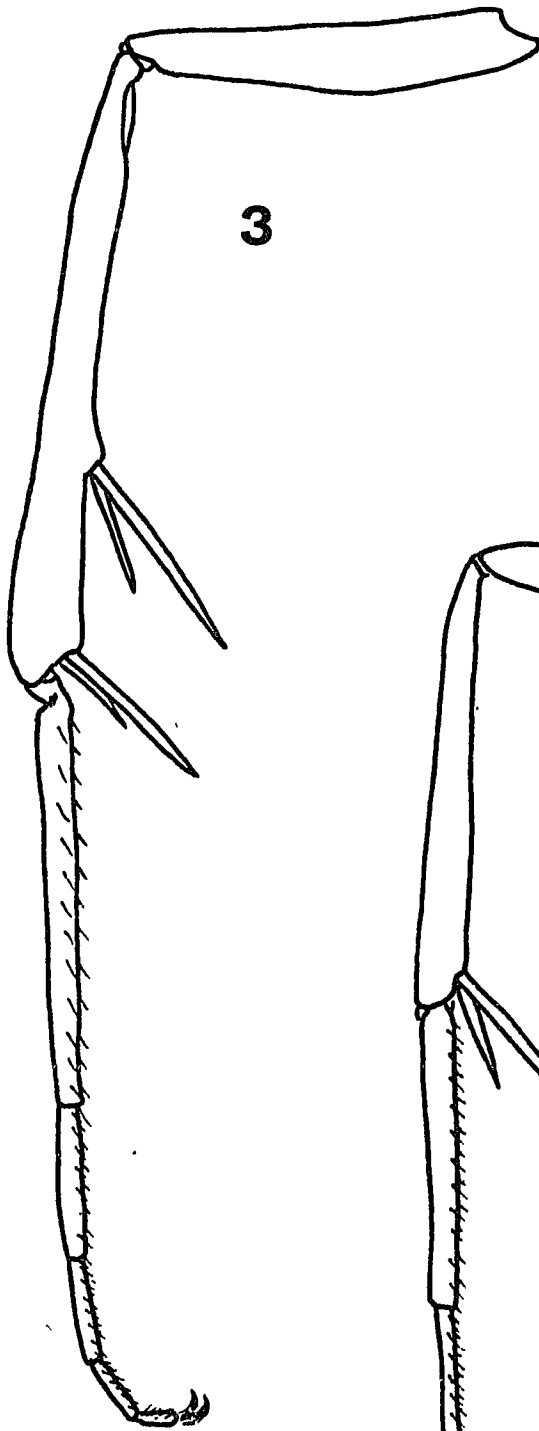
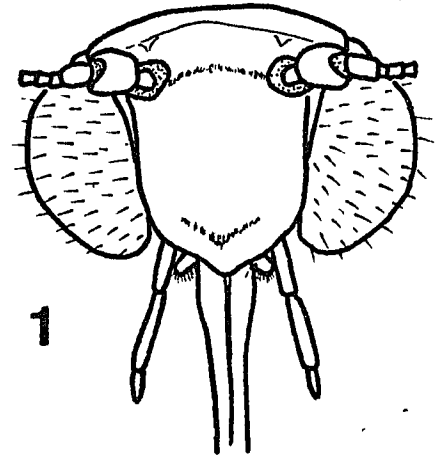
_____. 1865. Ibid. Part 33.

Wallengren, Von H. D. J. 1860. Lepidopterologische Mittheilungen. Wiener Entomologische Monatschrift. 4(6):161-176.

Warren, B. C. S. 1926. Monograph of the tribe Hesperii (European species) with a revised classification of the subfamily Hesperinae (Palearctic species) based on the genital armature of the male. Trans. Ent. Soc. London. 170pp., pl. 1-60.

EXPLANATION OF FIGURES 1-5

1. Lacinipolia uliginosa (Smith), male head
(only basal segments of antennae and proboscis),
denuded, front view.
2. Same, except lateral view.
3. Lacinipolia stenotis (Hampson), male metathoracic
leg, denuded, lateral view.
4. Same, mesothoracic leg, lateral view.
5. Same, prothoracic leg, lateral view.



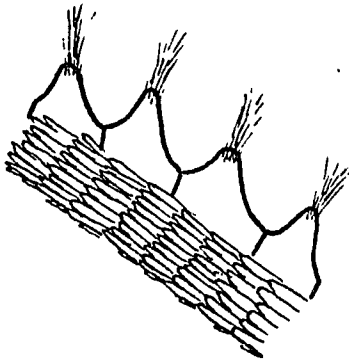
5

2

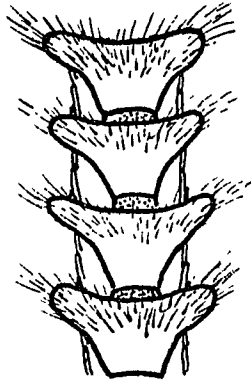
EXPLANATION OF FIGURES 6-11

(section through center of antennae, four segments)

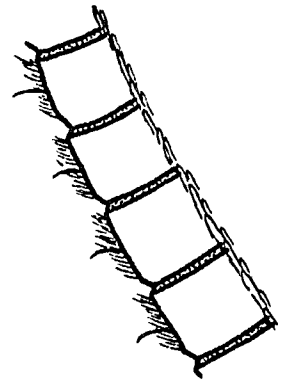
6. Lacinipolia lepidula (Smith), male, lateral view.
7. Same, except front view.
8. Lacinipolia incurva (Smith), male, simple pubescent, lateral view (typical of females).
9. Lacinipolia uliginosa (Smith), male, simple, bristled or fasciculate, lateral view.
10. Lacinipolia longiclava (Smith), male, simple pubescent, lateral view.
11. Lacinipolia rodora (Dyar), male, pectinate, front view.



6

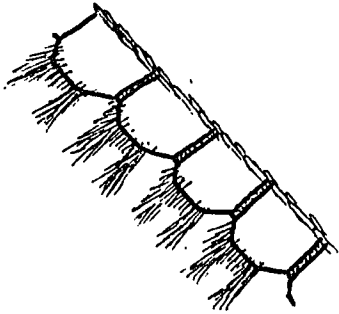


7

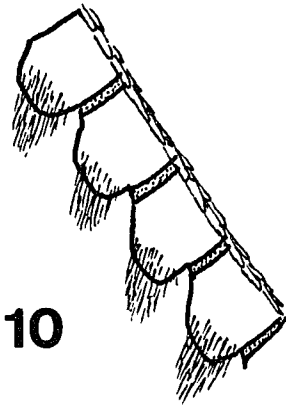


291

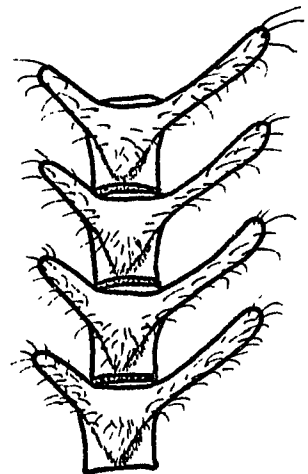
8



9



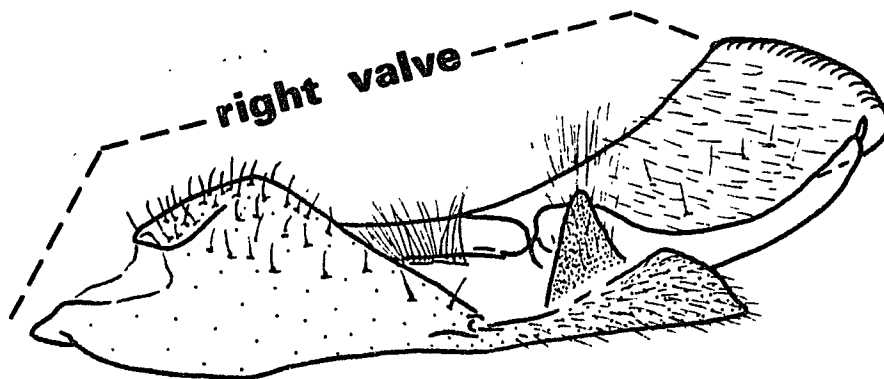
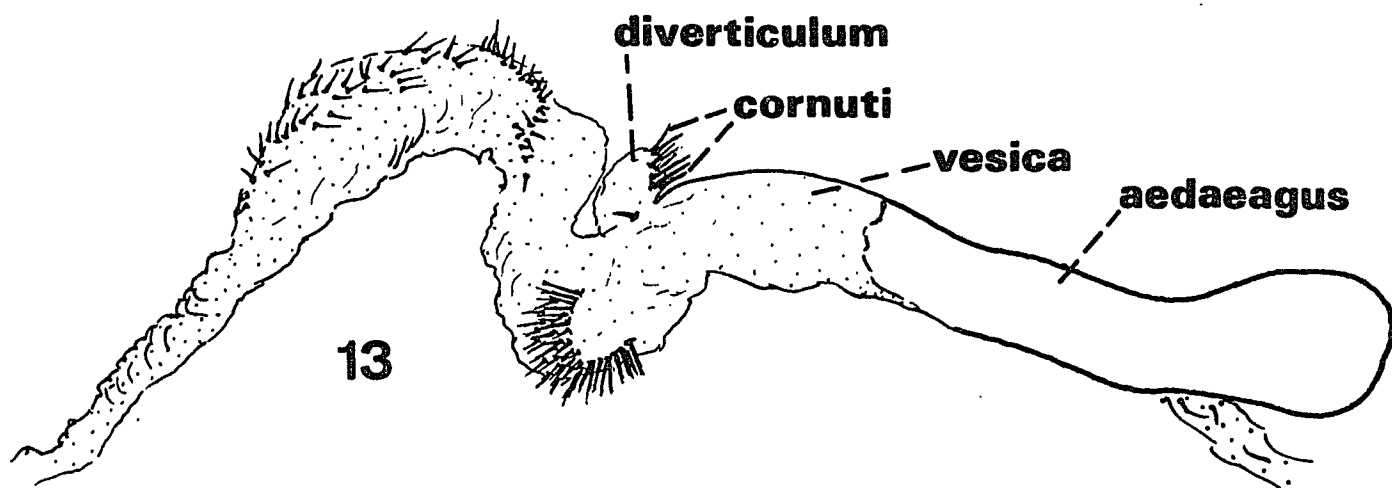
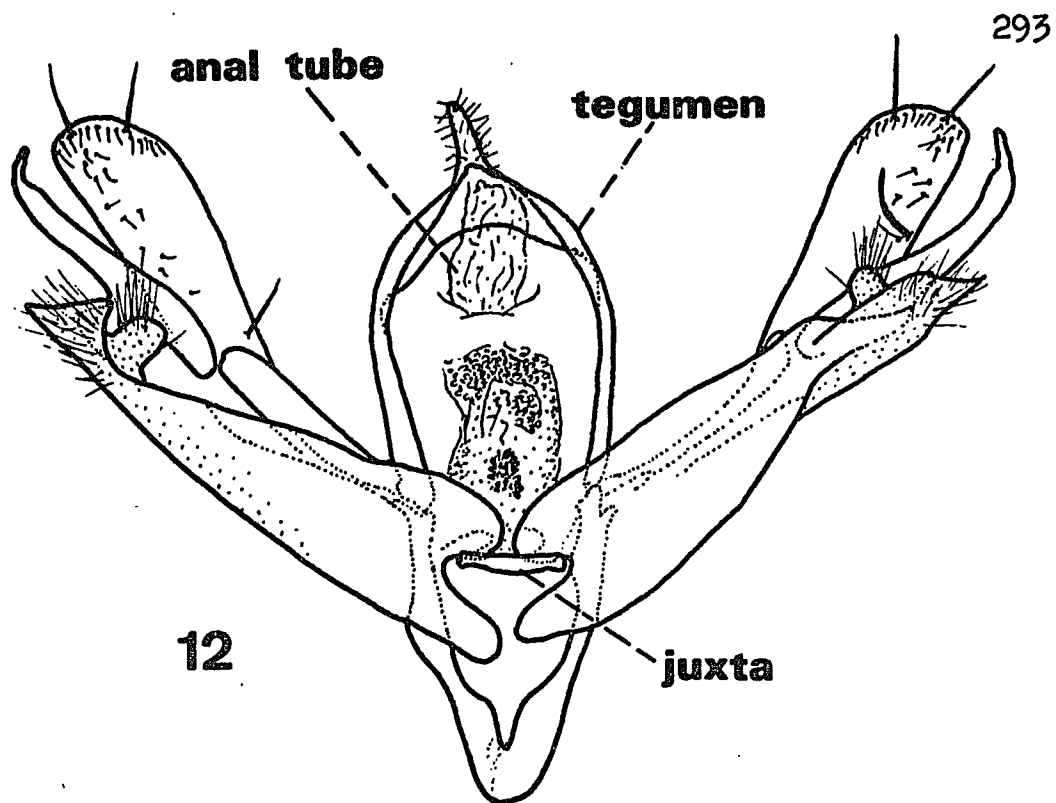
10



11

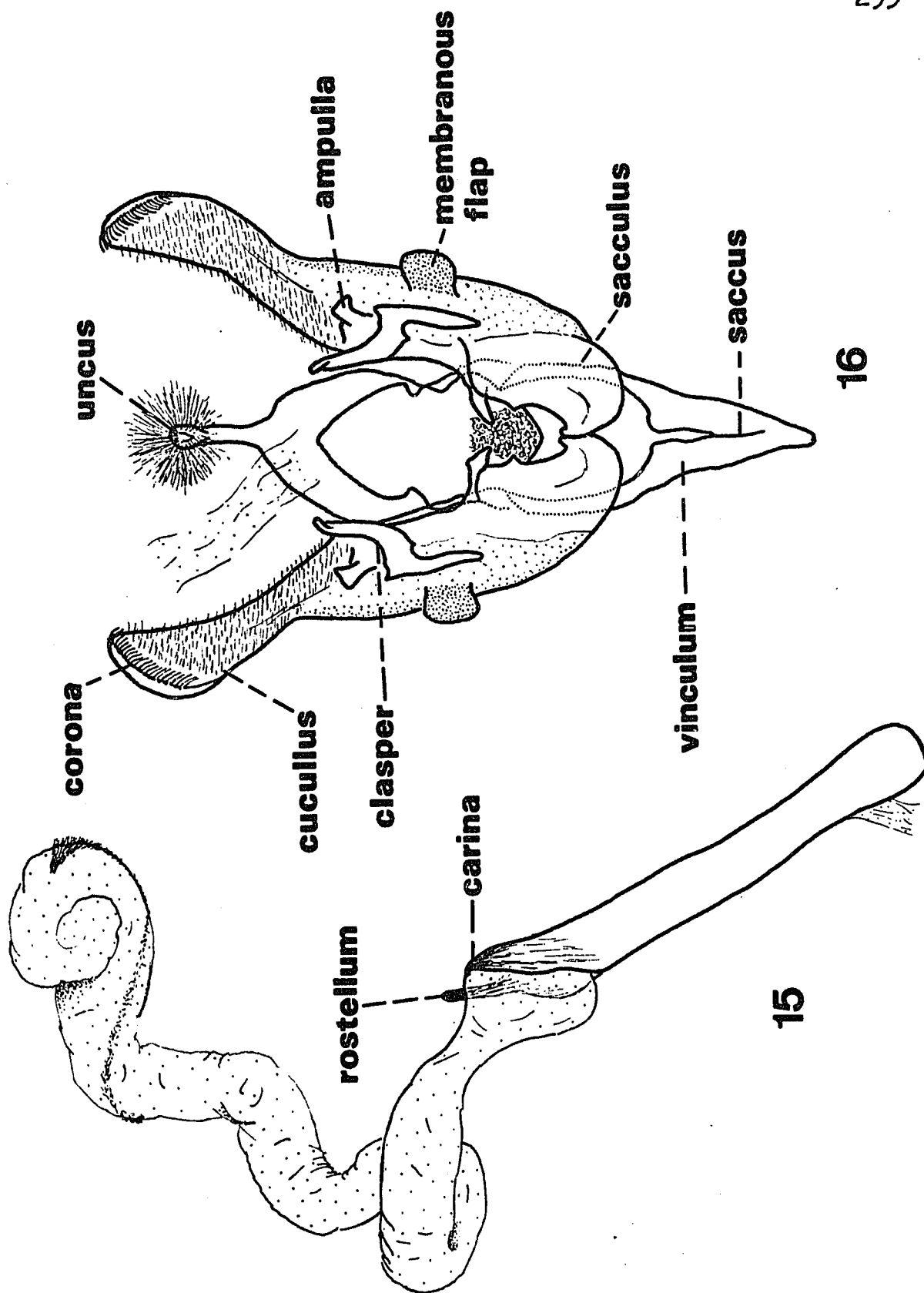
EXPLANATION OF FIGURES 12-14

12. Lacinipolia anguina (Grote), male genitalia, caudal view.
13. Same, aedaeagus (inflated vesica), lateral view.
14. Lacinipolia longiclava (Smith), right valve, inside lateral view.



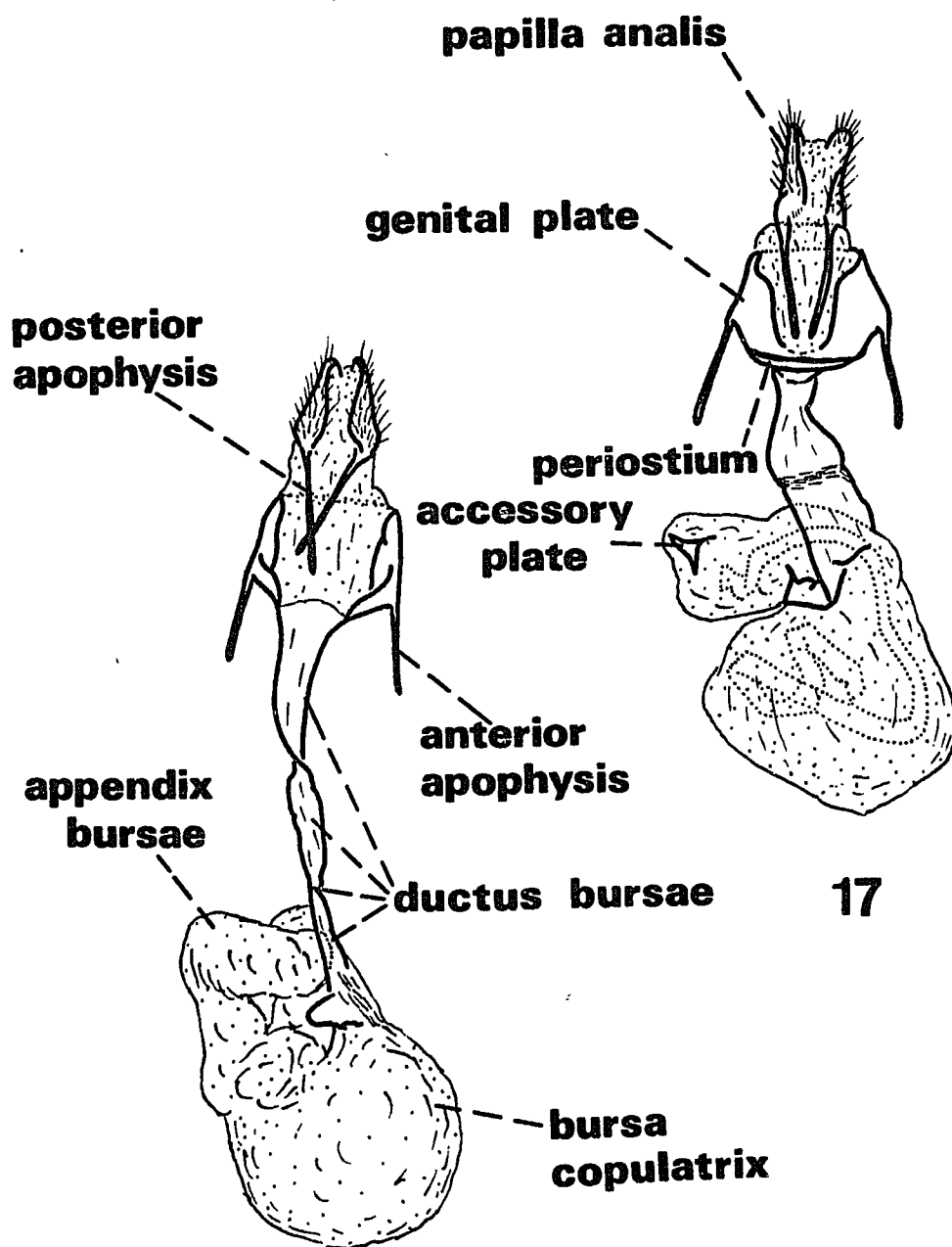
EXPLANATION OF FIGURES 15-16

15. Lacinipolia prognata McDunnough, aedeagus (inflated vesica), lateral view.
16. Same, male genitalia, caudal view.



EXPLANATIONS OF FIGURES 17-18

17. Lacinipolia olivacea (Morrison), female genitalia, ventral view.
18. Lacinipolia consimilis McDunnough, female genitalia, ventral view.

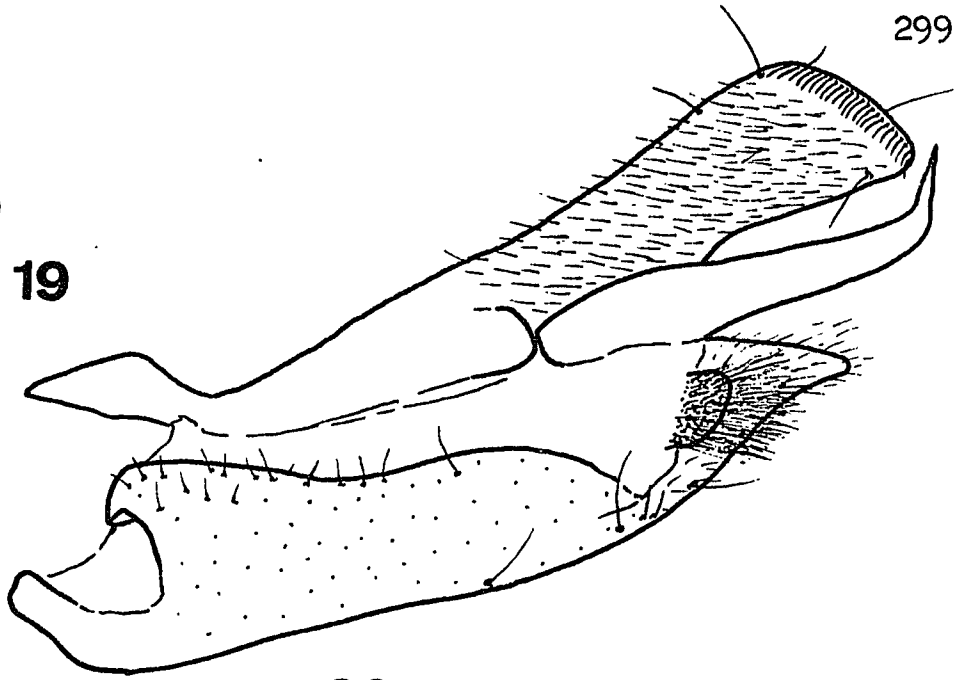


EXPLANATION OF FIGURES 19-24

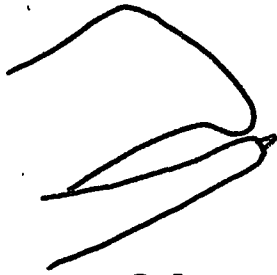
19. Lacinipolia anguina (Grote), tip of clasper, lateral view.
20. Same, right valve, lateral view.
21. Lacinipolia incurva (Smith), right valve, lateral view.
22. Same, tip of clasper, lateral view.
23. Same.
24. Same, tip of clasper and cucullus, lateral view.



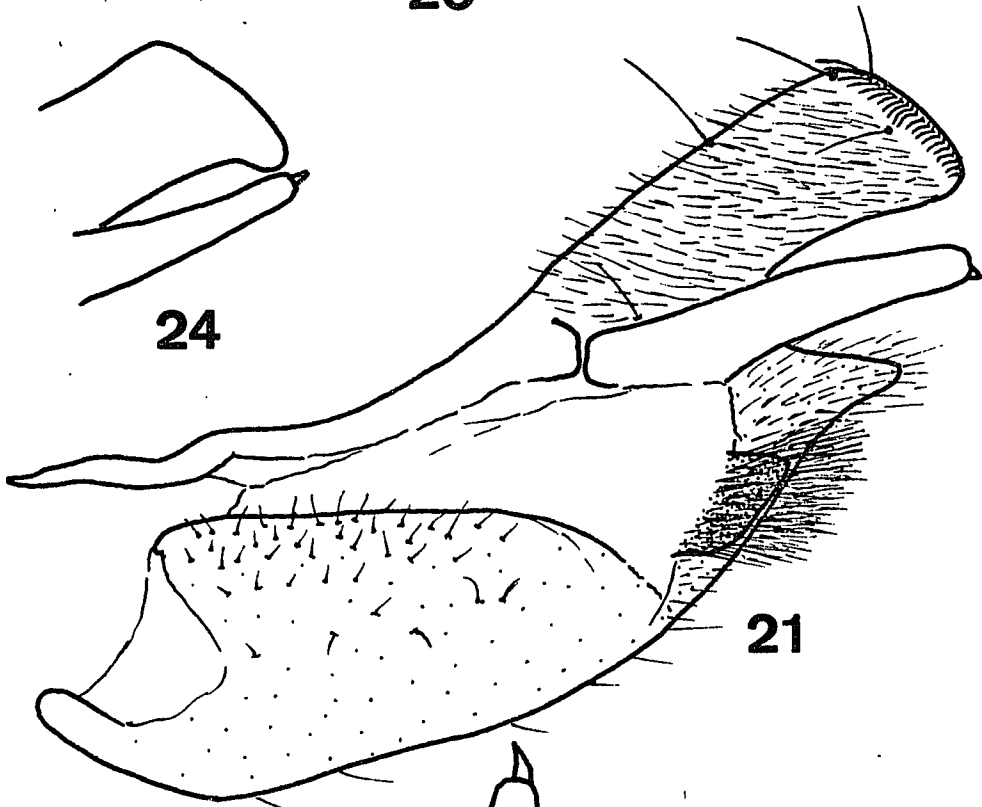
19



20



24



21



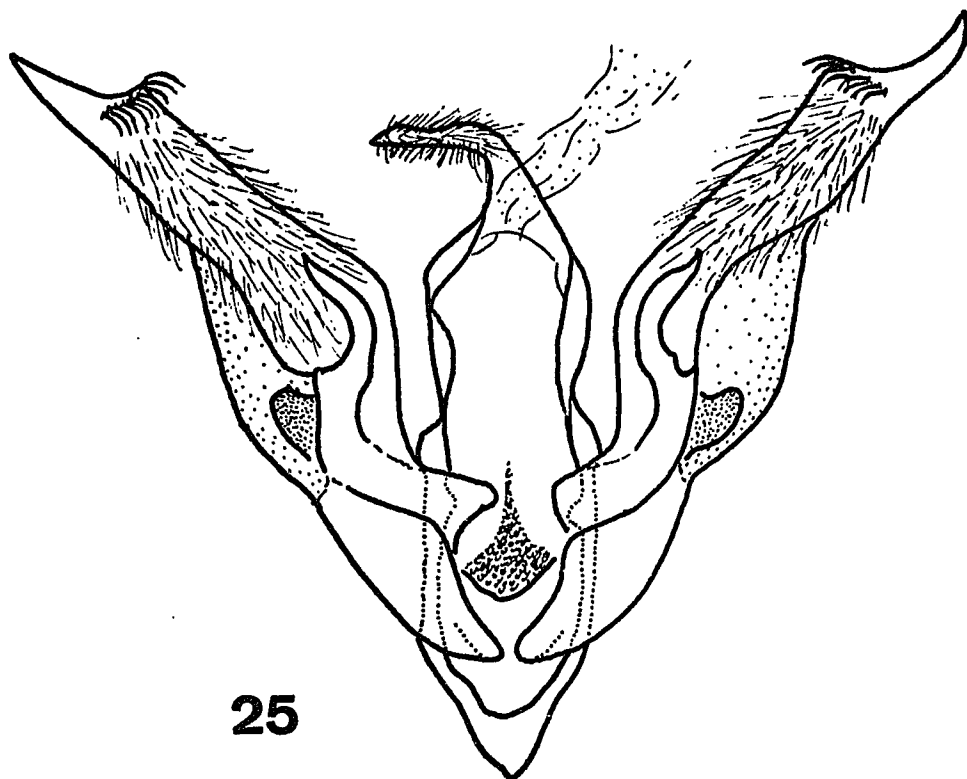
22



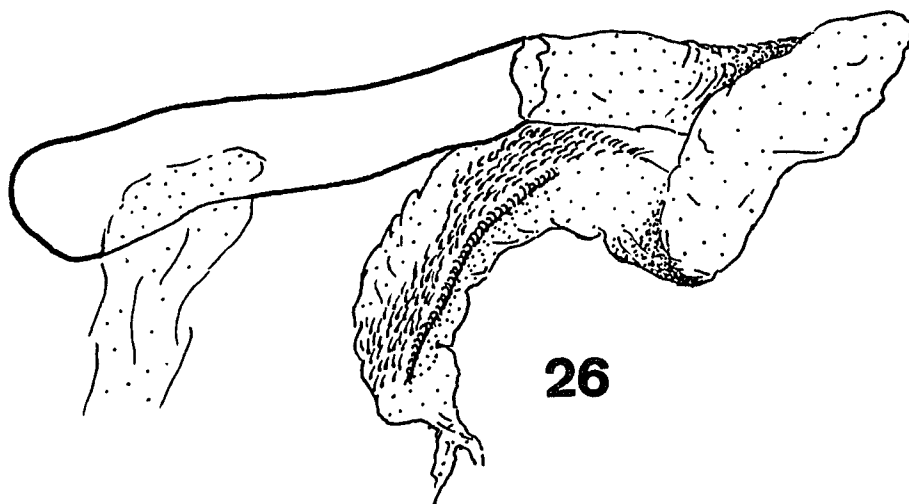
23

EXPLANATION OF FIGURES 25-26

25. Lacinipolia leucogramma (Grote), male genitalia, caudal view.
26. Same, aedaeagus (inflated vesica), lateral view.



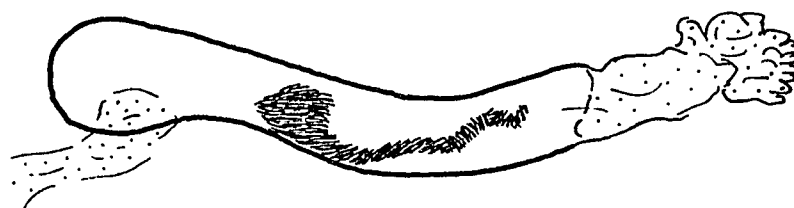
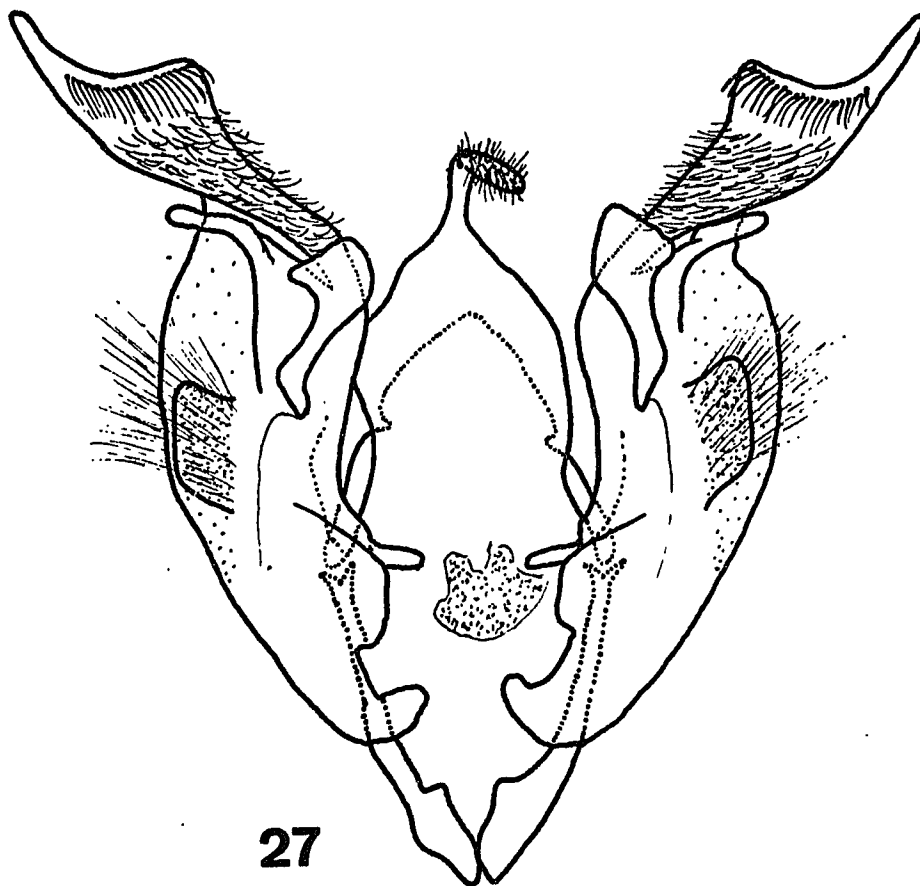
25



26

EXPLANATION OF FIGURES 27-28

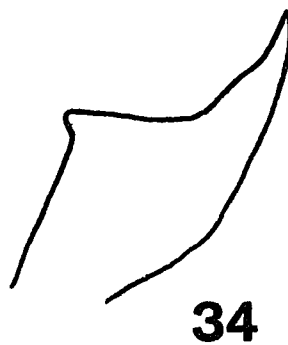
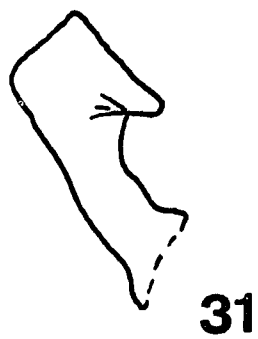
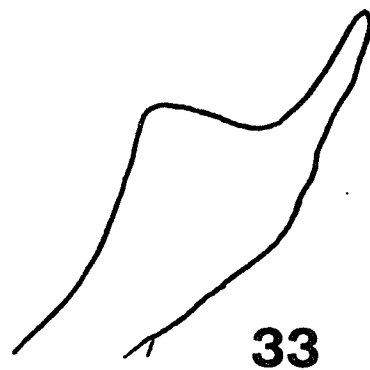
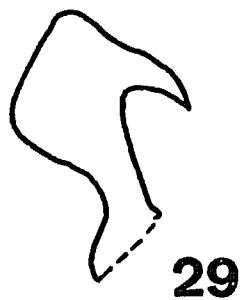
27. Lacinipolia umbrosa (Smith), male genitalia,
caudal view.
28. Same, aedaeagus (partly inflated vesica), lateral
view.



28

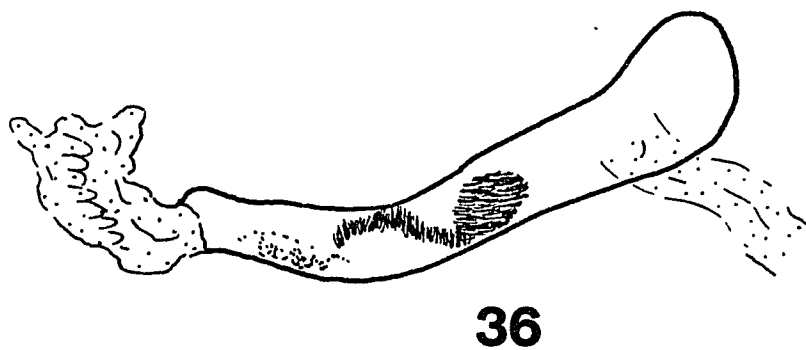
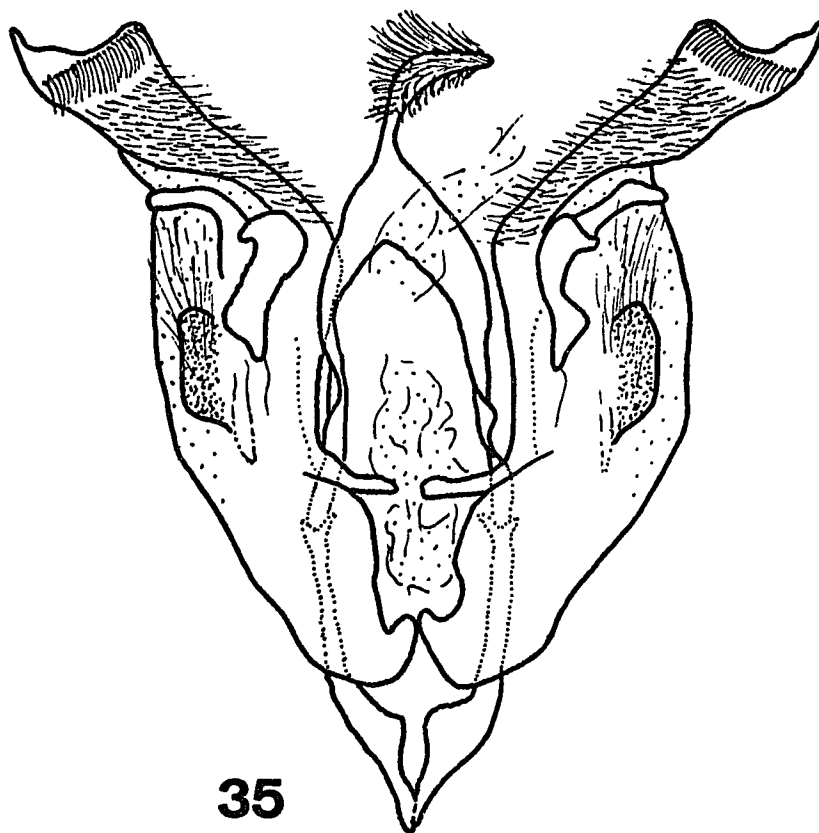
EXPLANATION OF FIGURES 29-34

29. Lacinipolia umbrosa (Smith), clasper, lateral view.
30. Same.
31. Same.
32. Same, tip of cucullus, lateral view.
33. Same.
34. Same.



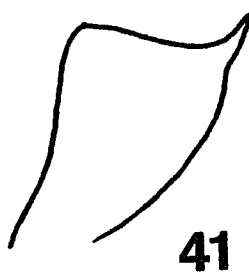
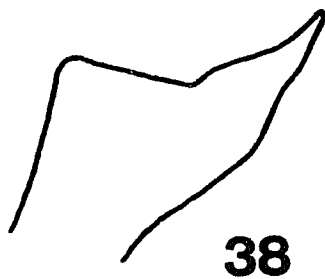
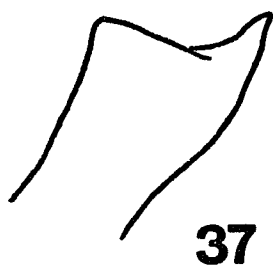
EXPLANATION OF FIGURES 35-36

35. Lacinipolia uliginosa (Smith), male genitalia,
caudal view.
36. Same, aedaeagus (partly inflated vesica), lateral
view.



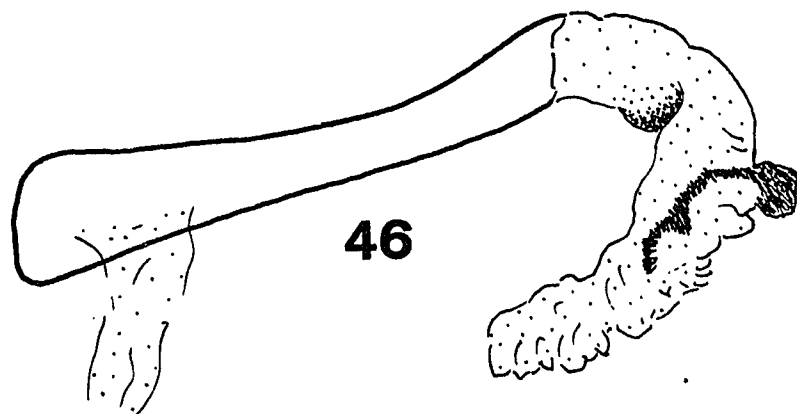
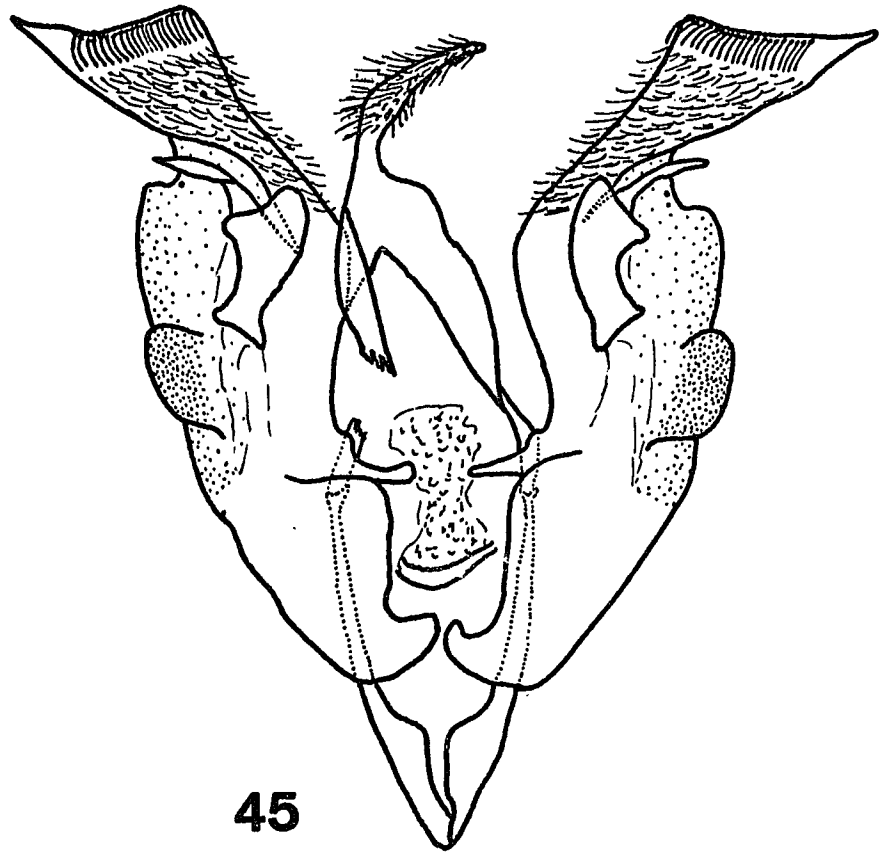
EXPLANATION OF FIGURES 37-44

- 37. Lacinipolia uliginosa (Smith), tip of cucullus,
lateral view.
- 38. Same.
- 39. Same, clasper, lateral view.
- 40. Same.
- 41. Lacinipolia palilis (Harvey), tip of cucullus,
lateral view.
- 42. Same.
- 43. Same, clasper, lateral view.
- 44. Same.



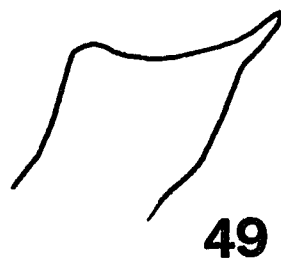
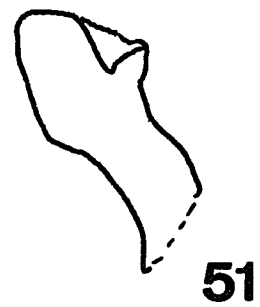
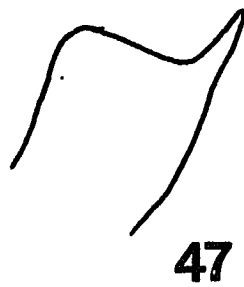
EXPLANATION OF FIGURES 45-46

45. Lacinipolia palilis (Harvey), male genitalia,
caudal view.
46. Same, aedaeagus (partly inflated vesica), lateral
view.



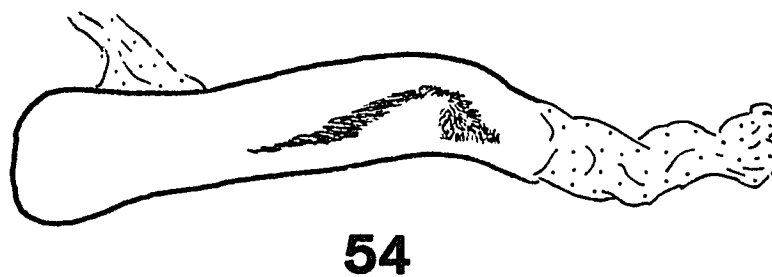
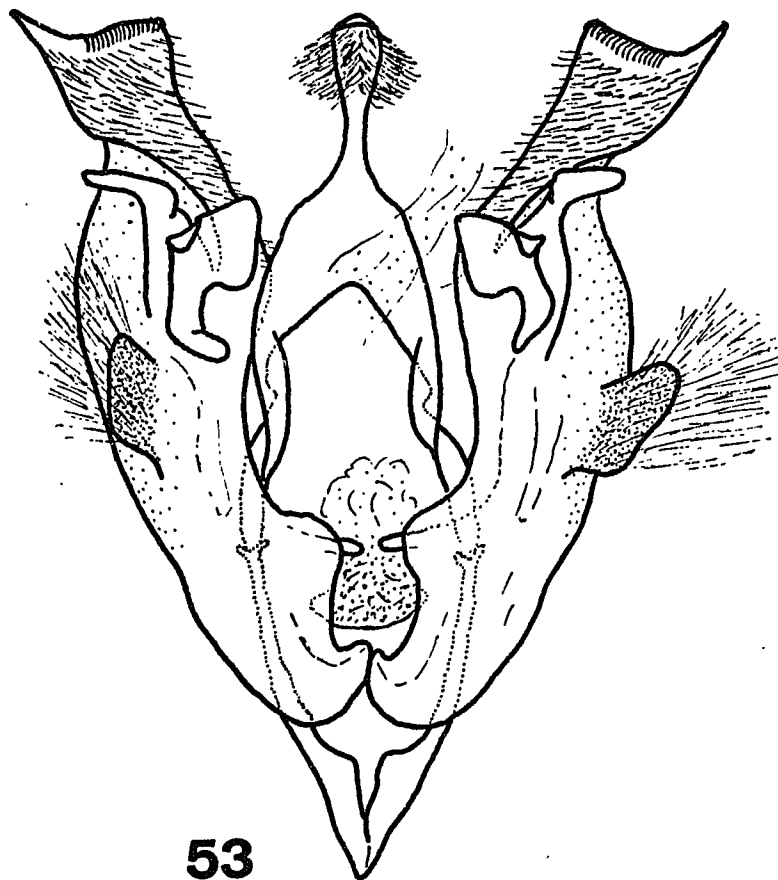
EXPLANATION OF FIGURES 47-52

- 47. Lacinipolia vittula (Grote), tip of cucullus,
lateral view.
- 48. Same.
- 49. Same.
- 50. Same, clasper, lateral view.
- 51. Same.
- 52. Same.



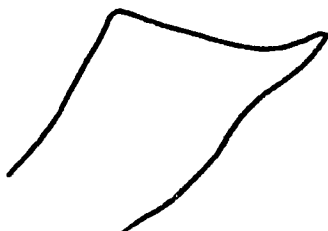
EXPLANATION OF FIGURES 53-54

53. Lacinipolia vittula (Grote), male genitalia,
caudal view.
54. Same, aedaeagus (partly inflated vesica), lateral
view.



EXPLANATION OF FIGURES 55-60

- 55. Lacinipolia stenotis (Hampson), tip of cucullus,
lateral view.
- 56. Same.
- 57. Same.
- 58. Same, clasper, lateral view.
- 59. Same.
- 60. Same.



55



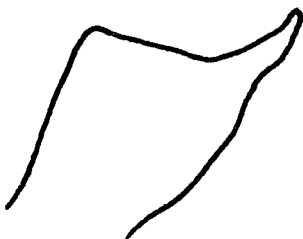
58



56



59



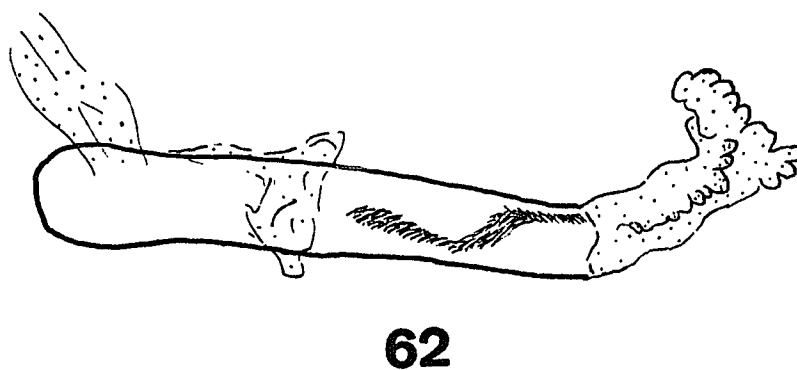
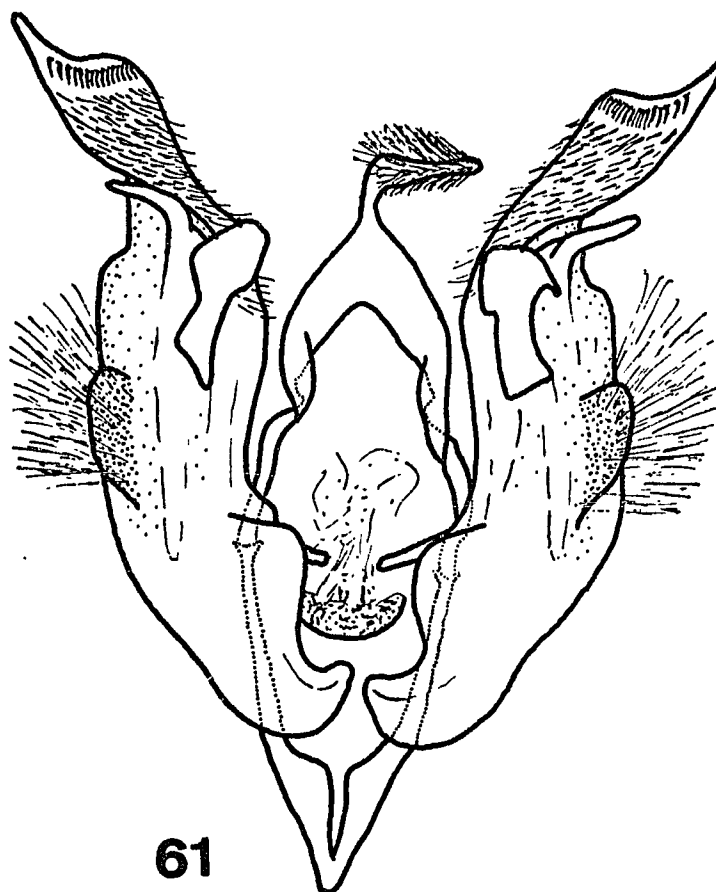
57



60

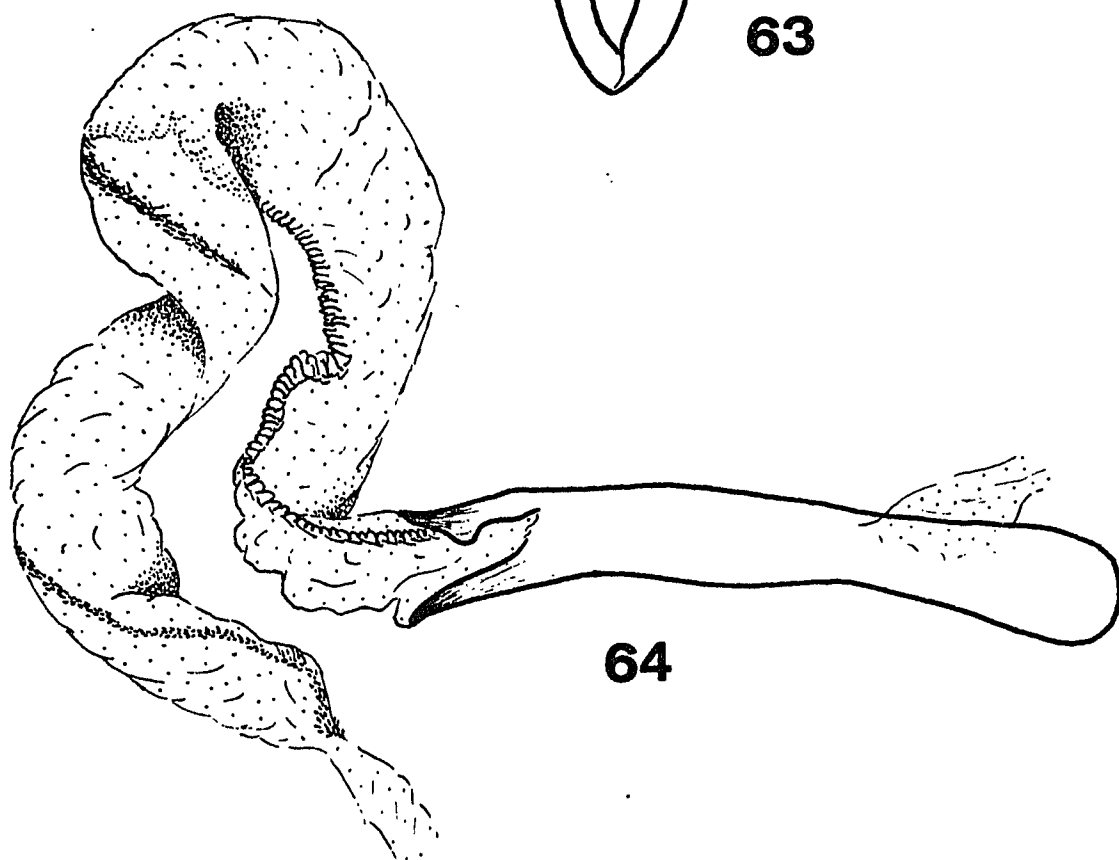
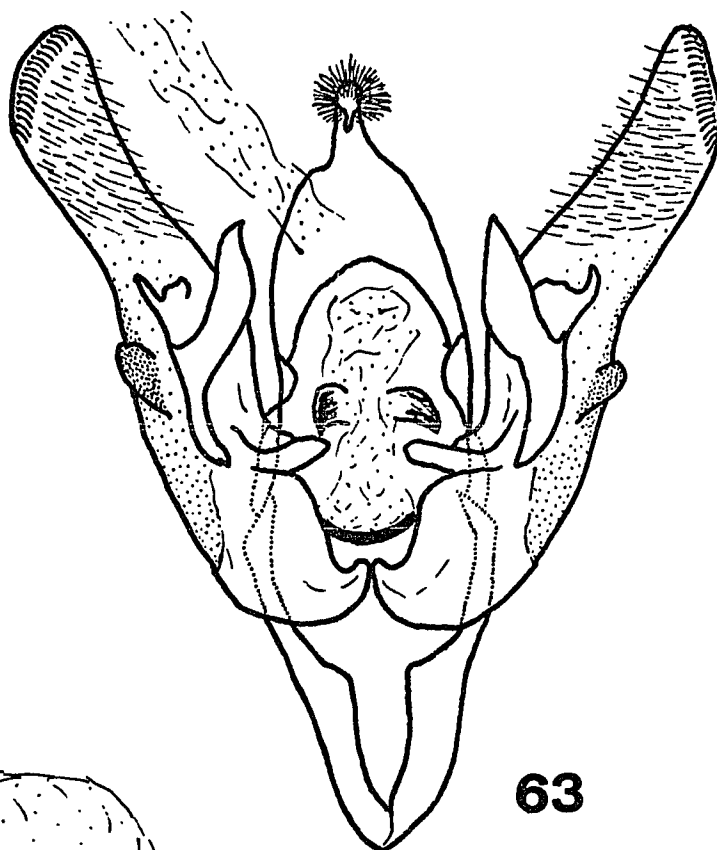
EXPLANATION OF FIGURES 61-62

61. Lacinipolia stenotis (Hampson), male genitalia,
caudal view.
62. Same, aedaeagus (partly inflated vesica),
lateral view.



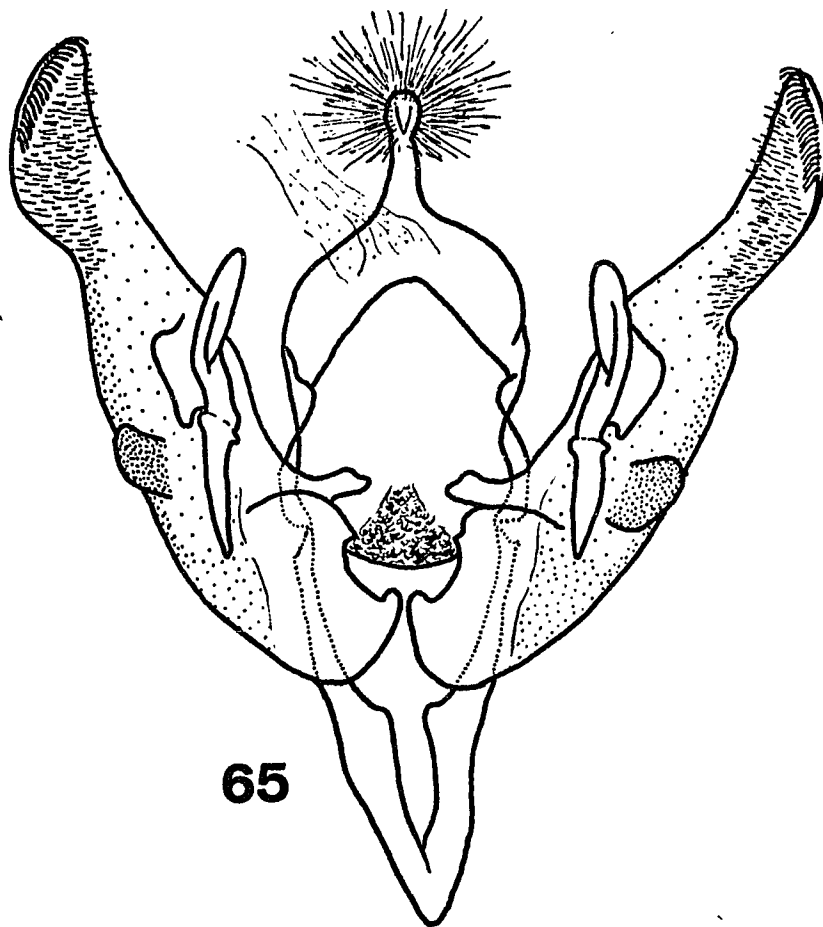
EXPLANATION OF FIGURES 63-64

63. Lacinipolia lustralis (Grote), male genitalia,
caudal view.
64. Same, aedaeagus (inflated vesica) lateral view.



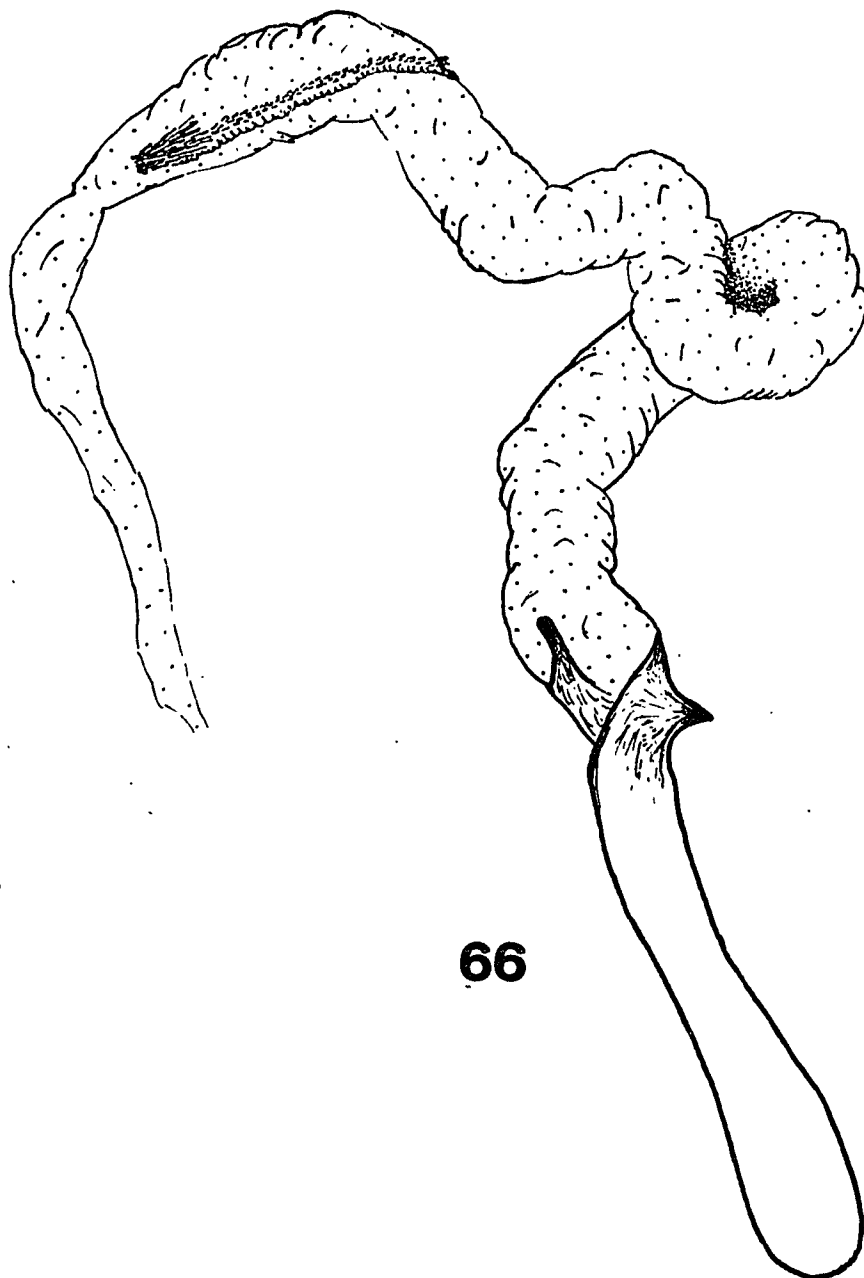
EXPLANATION OF FIGURE 65

65. Lacinipolia gnata (Grote), male genitalia,
caudal view.



EXPLANATION OF FIGURE 66

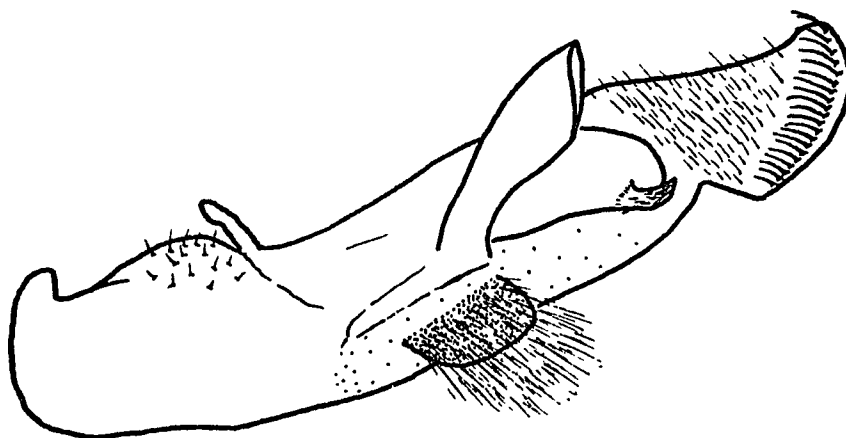
66. Lacinipolia gnata (Grote), aedaeagus (inflated vesica), lateral view.



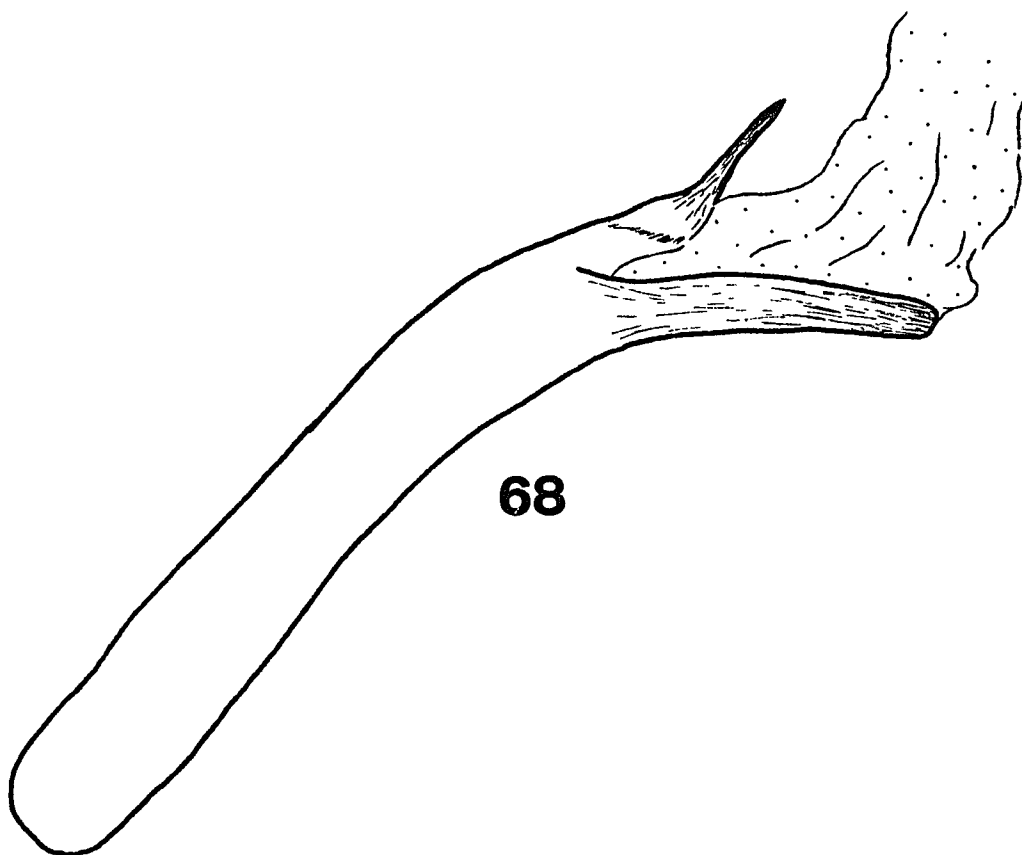
66

EXPLANATION OF FIGURES 67-68

67. Lacinipolia delongi n. sp., right valve,
lateral view.
68. Same, aedaeagus, lateral view.



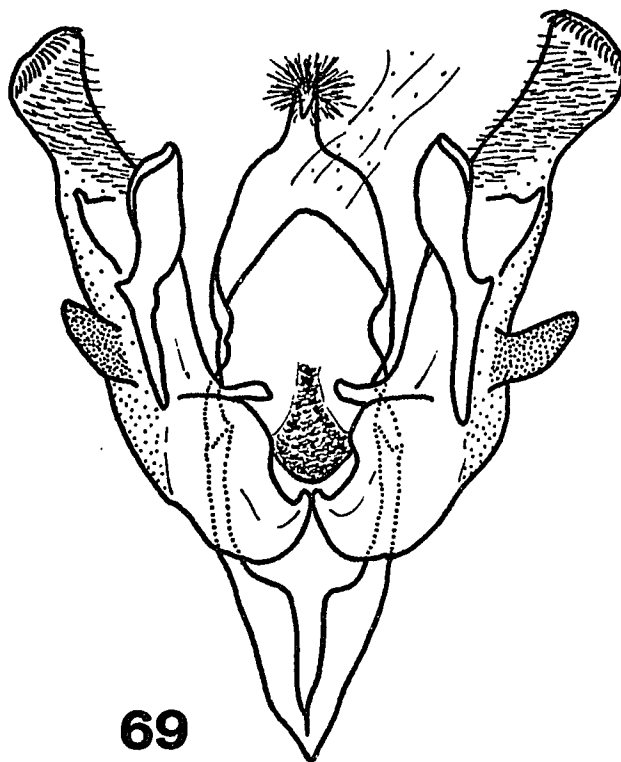
67



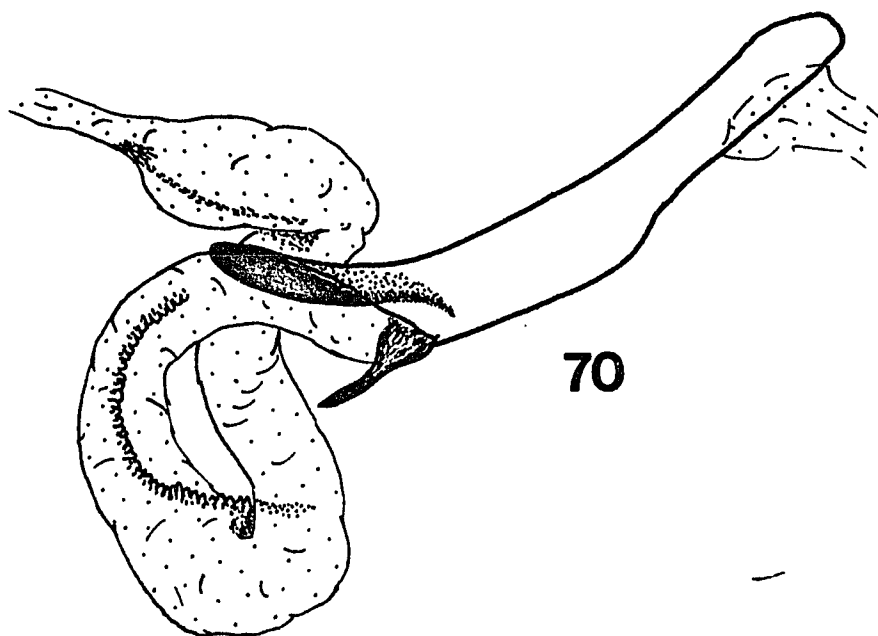
68

EXPLANATION OF FIGURES 69-70

69. Lacinipolia naevia (Smith), male genitalia,
caudal view.
70. Same, aedaeagus (inflated vesica), lateral view.



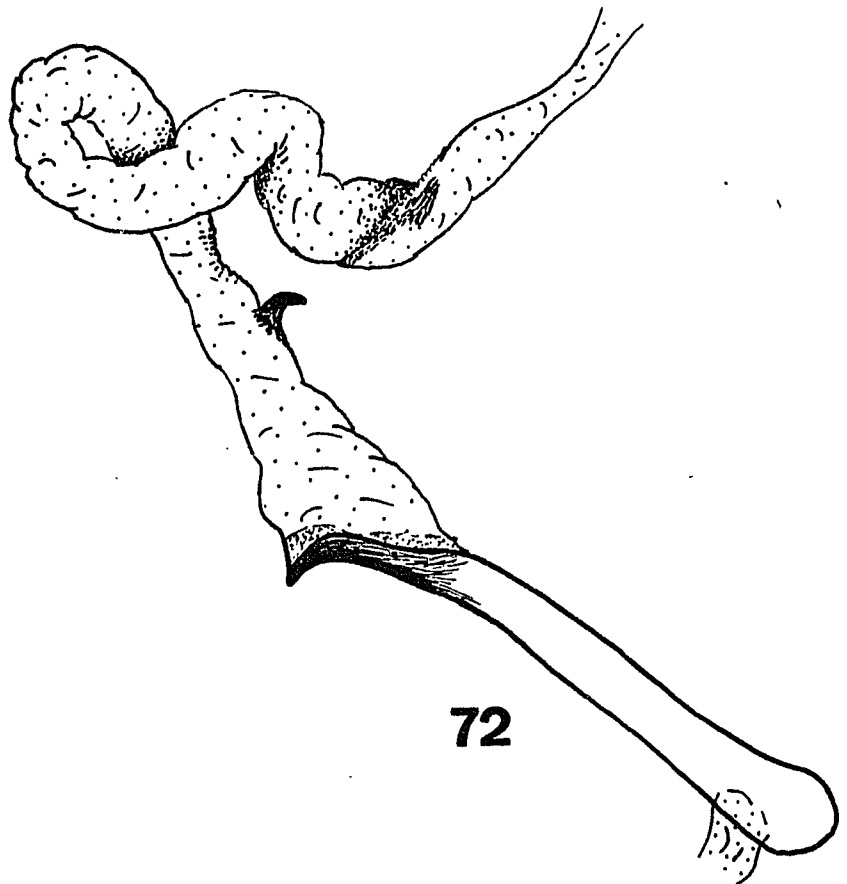
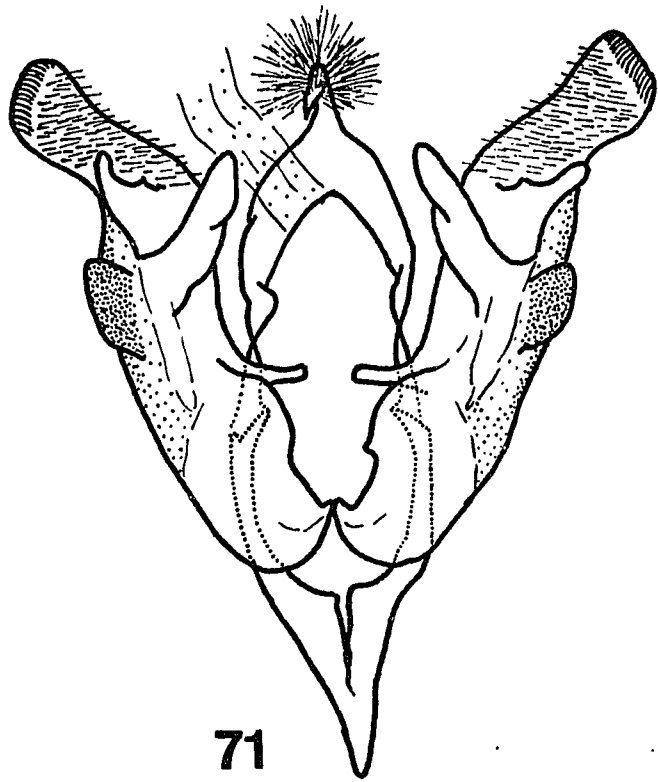
69



70

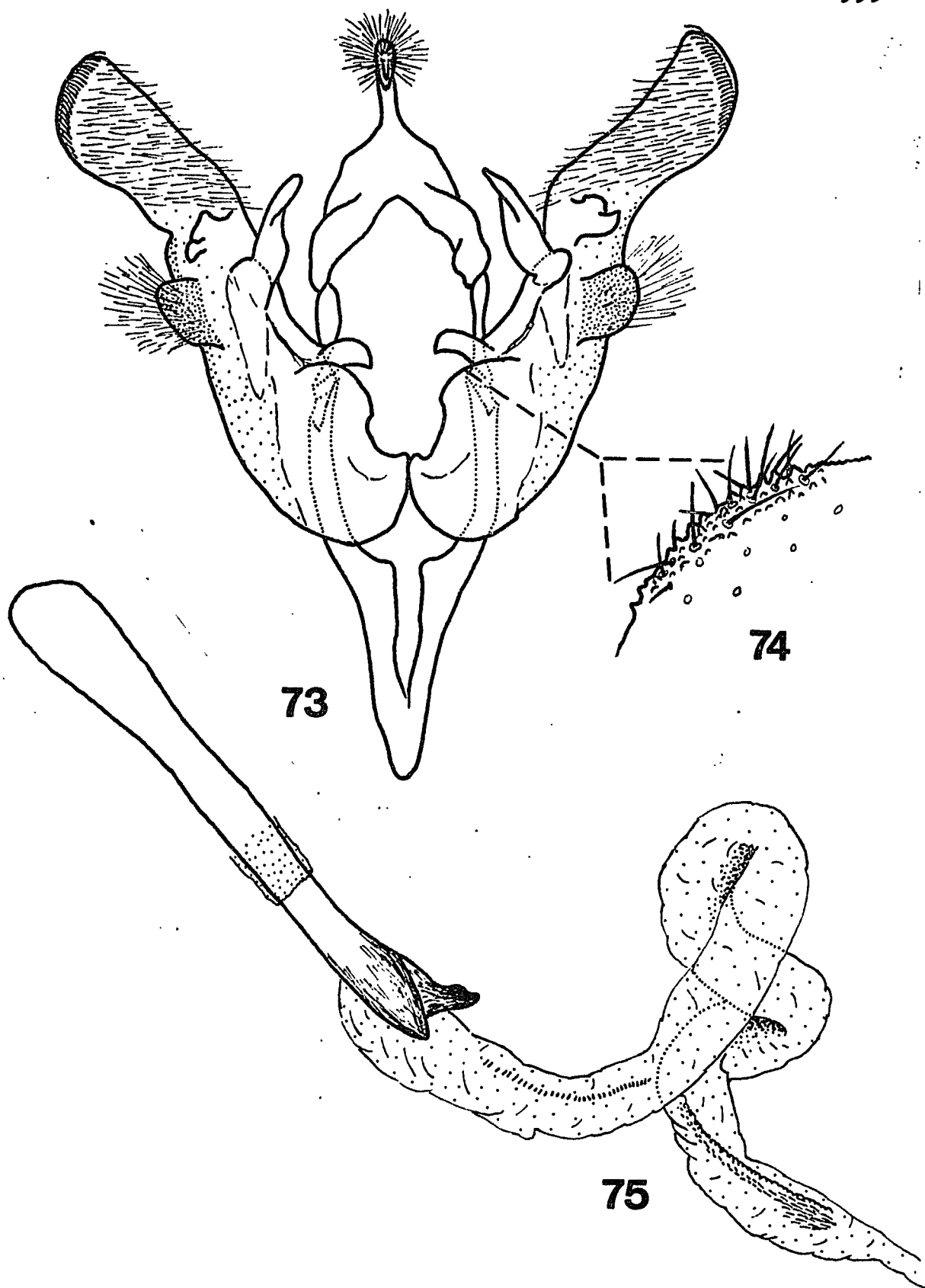
EXPLANATION OF FIGURES 71-72

71. Lacinipolia agnata (Smith), male genitalia, caudal view.
72. Same, aedaeagus (inflated vesica), lateral view.



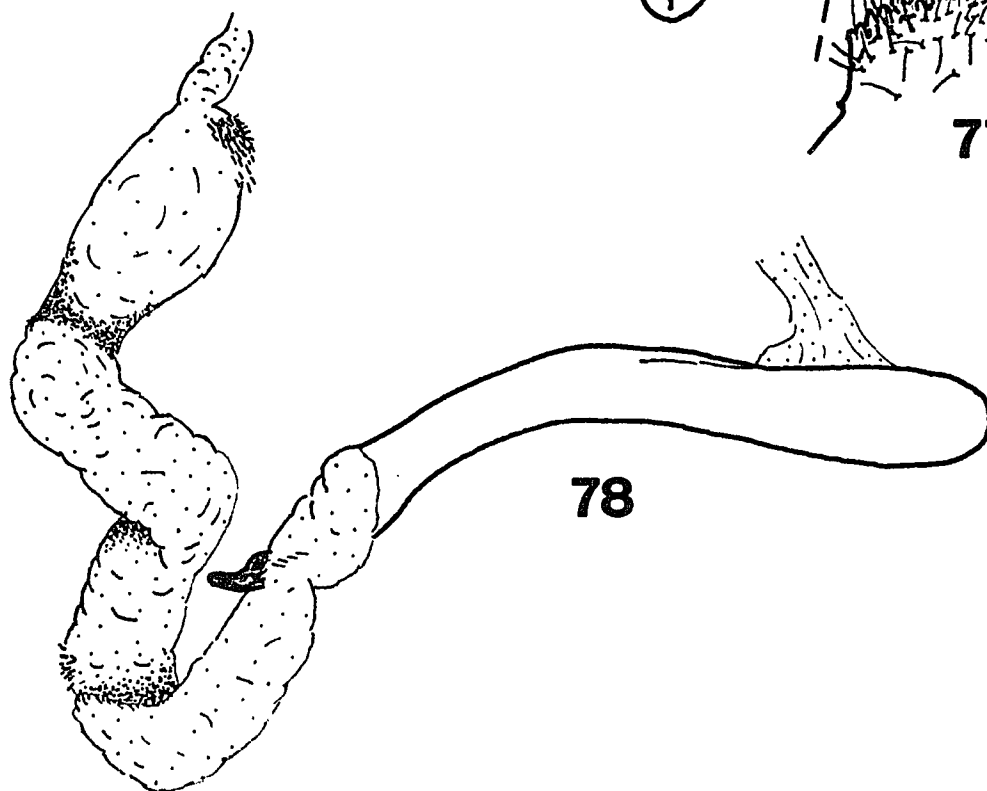
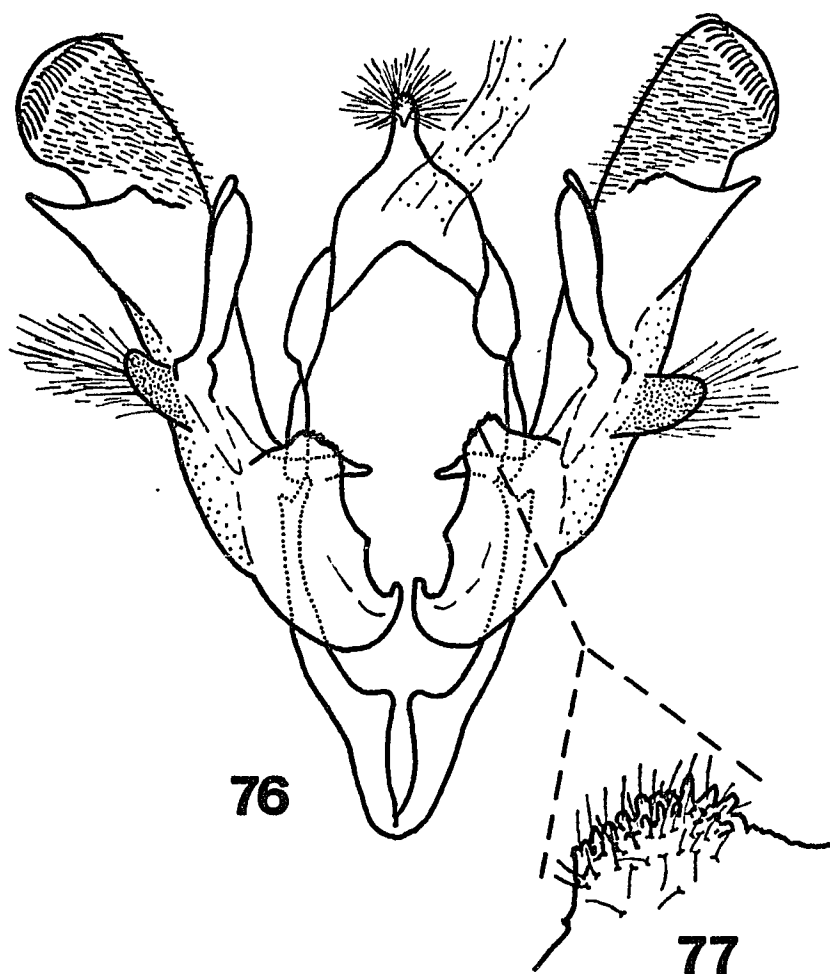
EXPLANATION OF FIGURES 73-75

- 73. Lacinipolia lepidula (Smith), male genitalia, caudal view.
- 74. Same, upper edge of sacculus, 440X.
- 75. Same, aedaeagus (inflated vesica), lateral view.



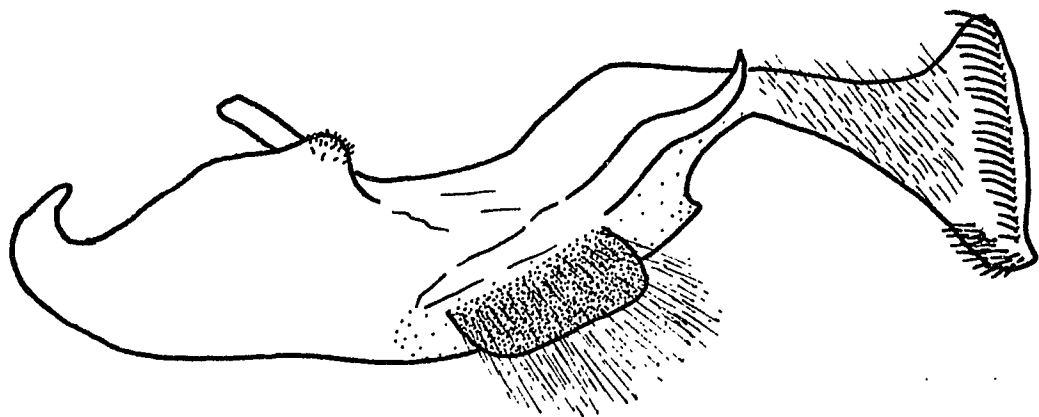
EXPLANATION OF FIGURES 76-78

76. Lacinipolia luteimacula (Barnes and Benjamin),
male genitalia, caudal view.
77. Same, upper edge of sacculus, 440X.
78. Same, aedaeagus (inflated vesica), lateral view.

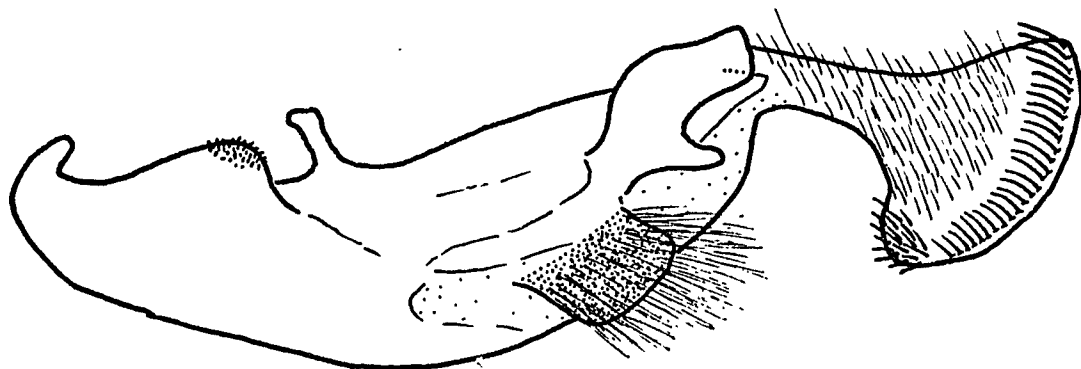


EXPLANATION OF FIGURES 79-80

79. Lacinipolia aileenae n.sp., right valve, lateral view.
80. Lacinipolia imbuna (Smith), right valve, lateral view.



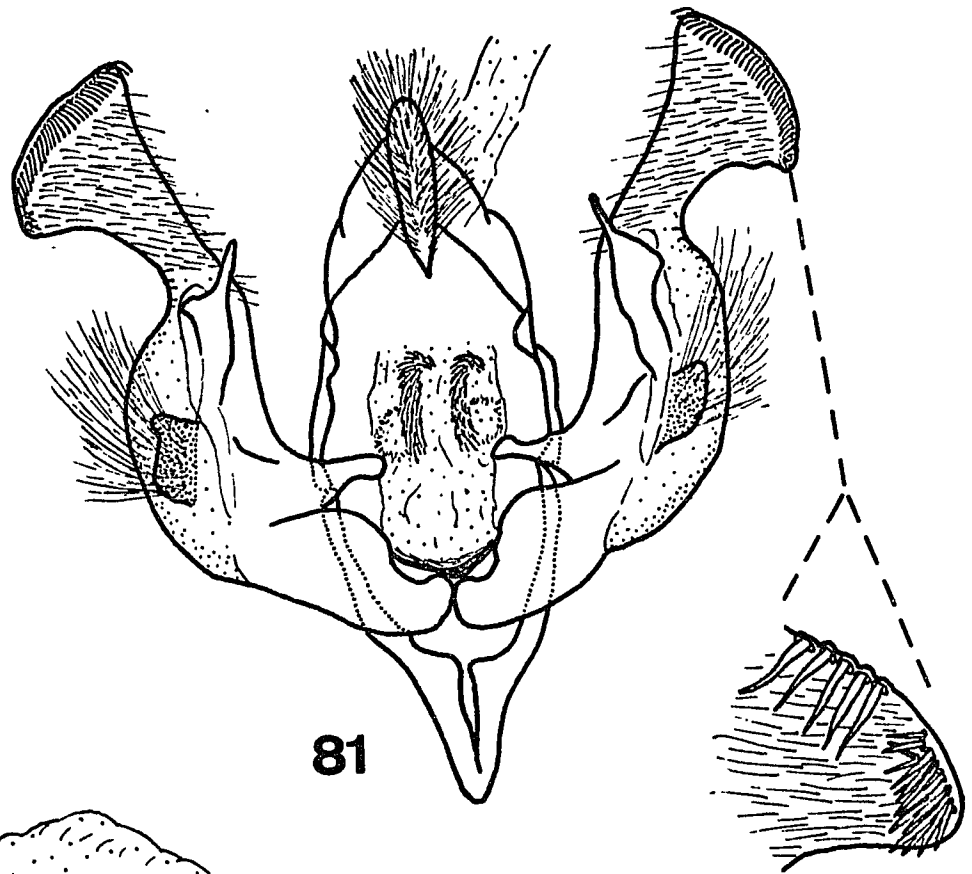
79



80

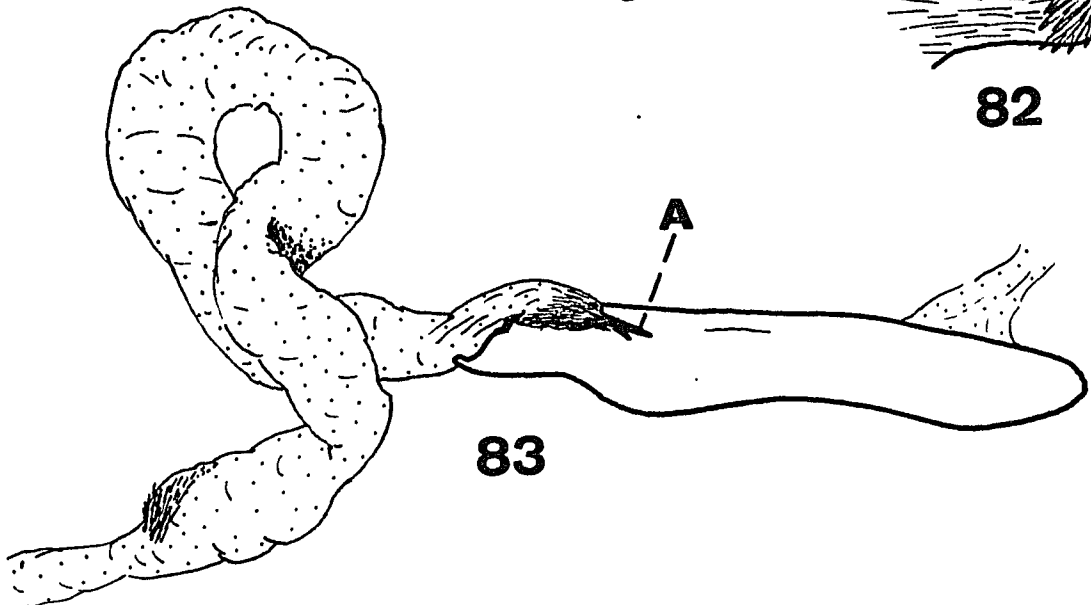
EXPLANATION OF FIGURES 81-83

81. Lacinipolia pensilis (Grote), male genitalia,
caudal view.
82. Same, corner section of cucullus, 440X.
83. Same, aedaeagus (inflated vesica), lateral view.



81

82



83

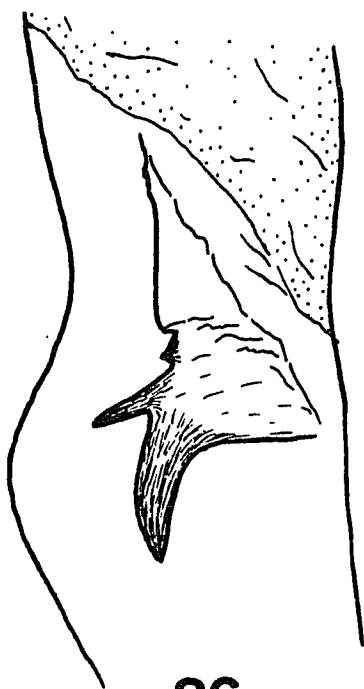
A

EXPLANATION OF FIGURES 84-86

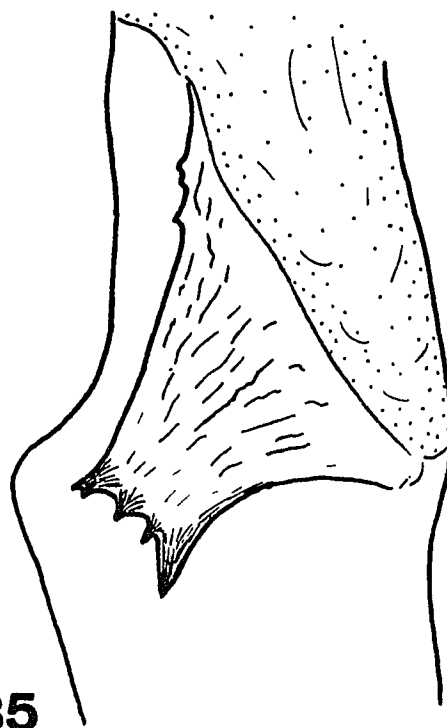
- 84. Lacinipolia pensilis (Grote), enlargement of process marked "A" on Figure 83 as it appears in lateral view 440X.
- 85. Same, shows variation between specimens.
- 86. Same.



84



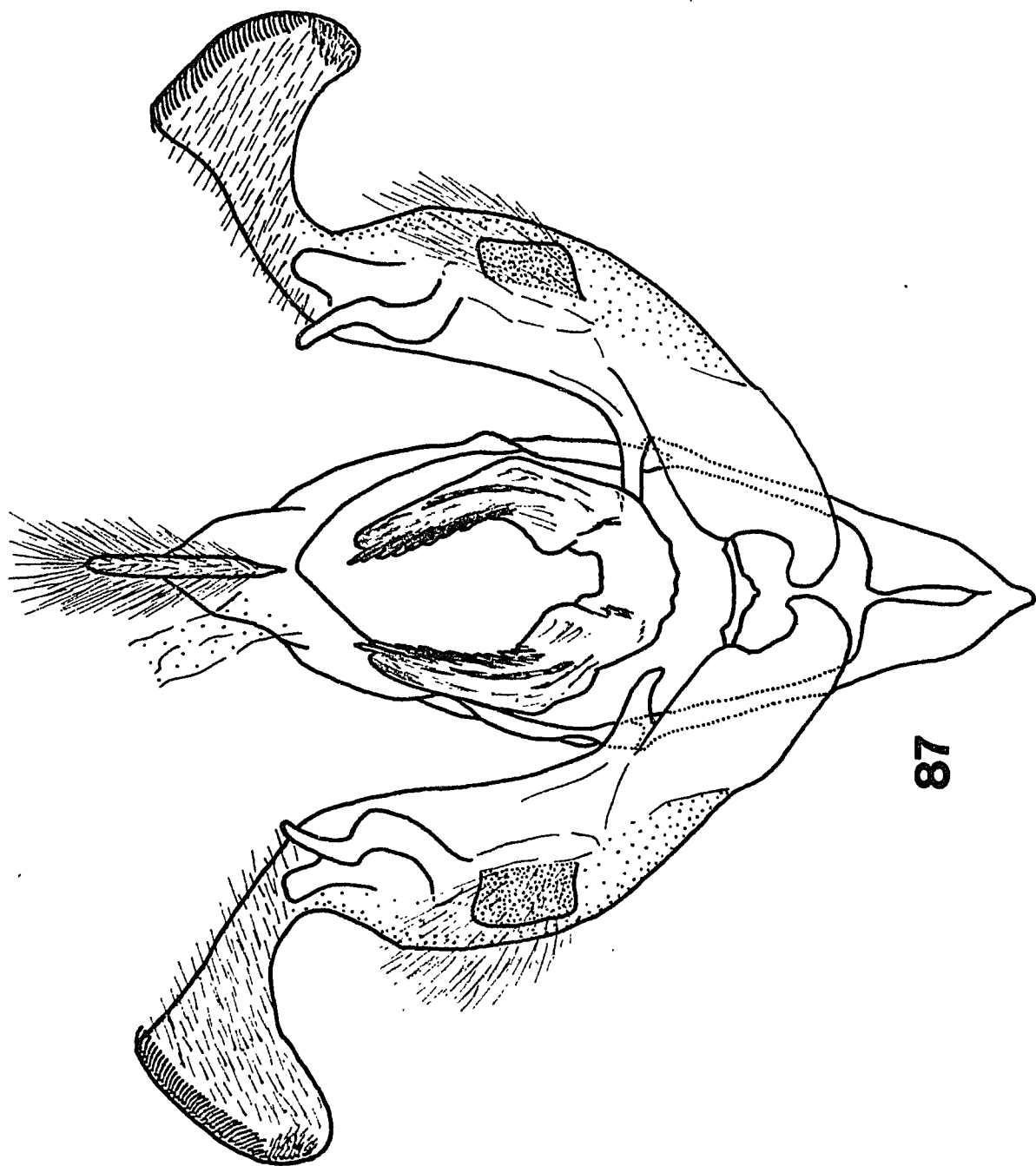
86



85

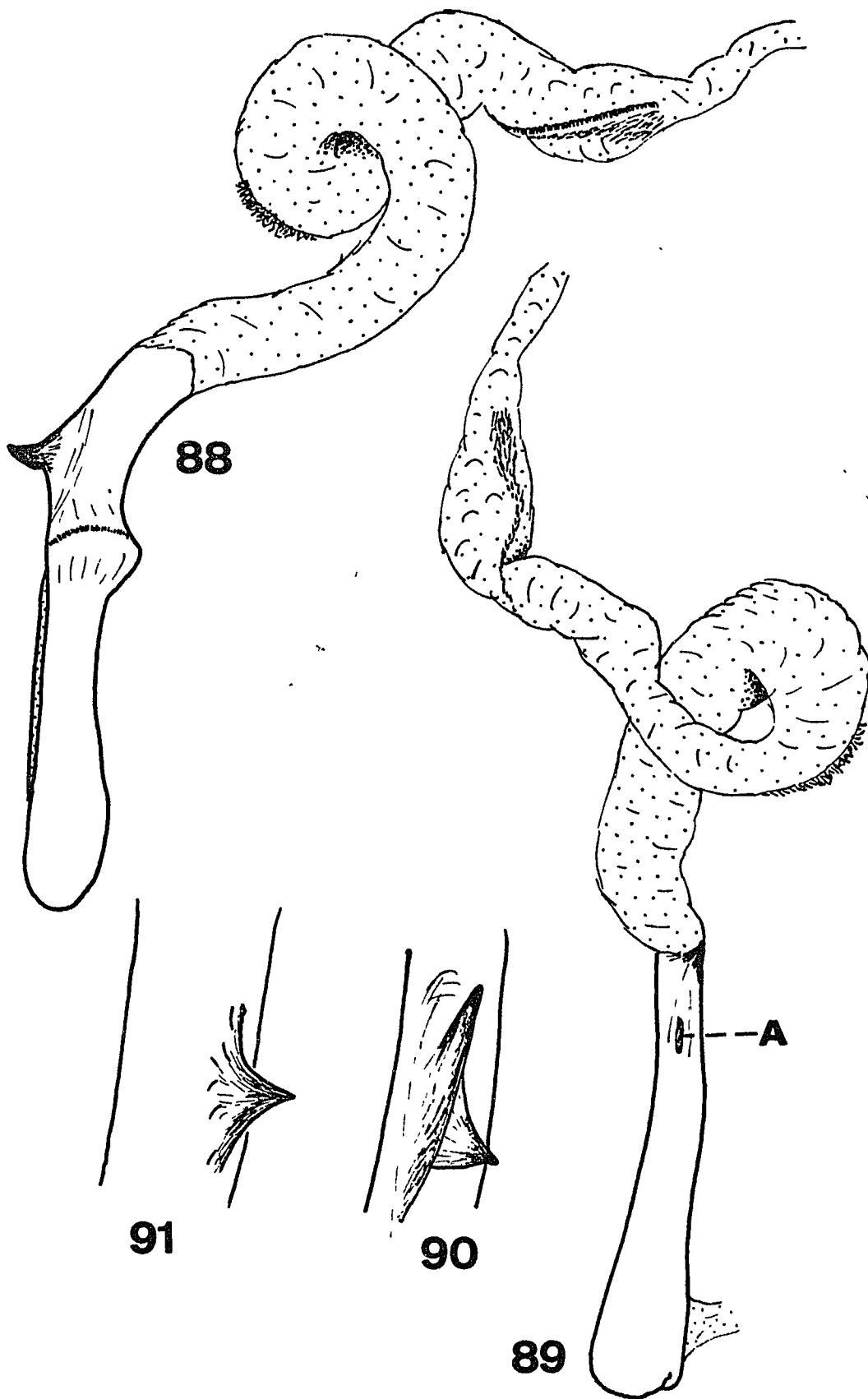
EXPLANATION OF FIGURE 87

87. Lacinipolia acutipennis (Grote), male genitalia,
caudal view.



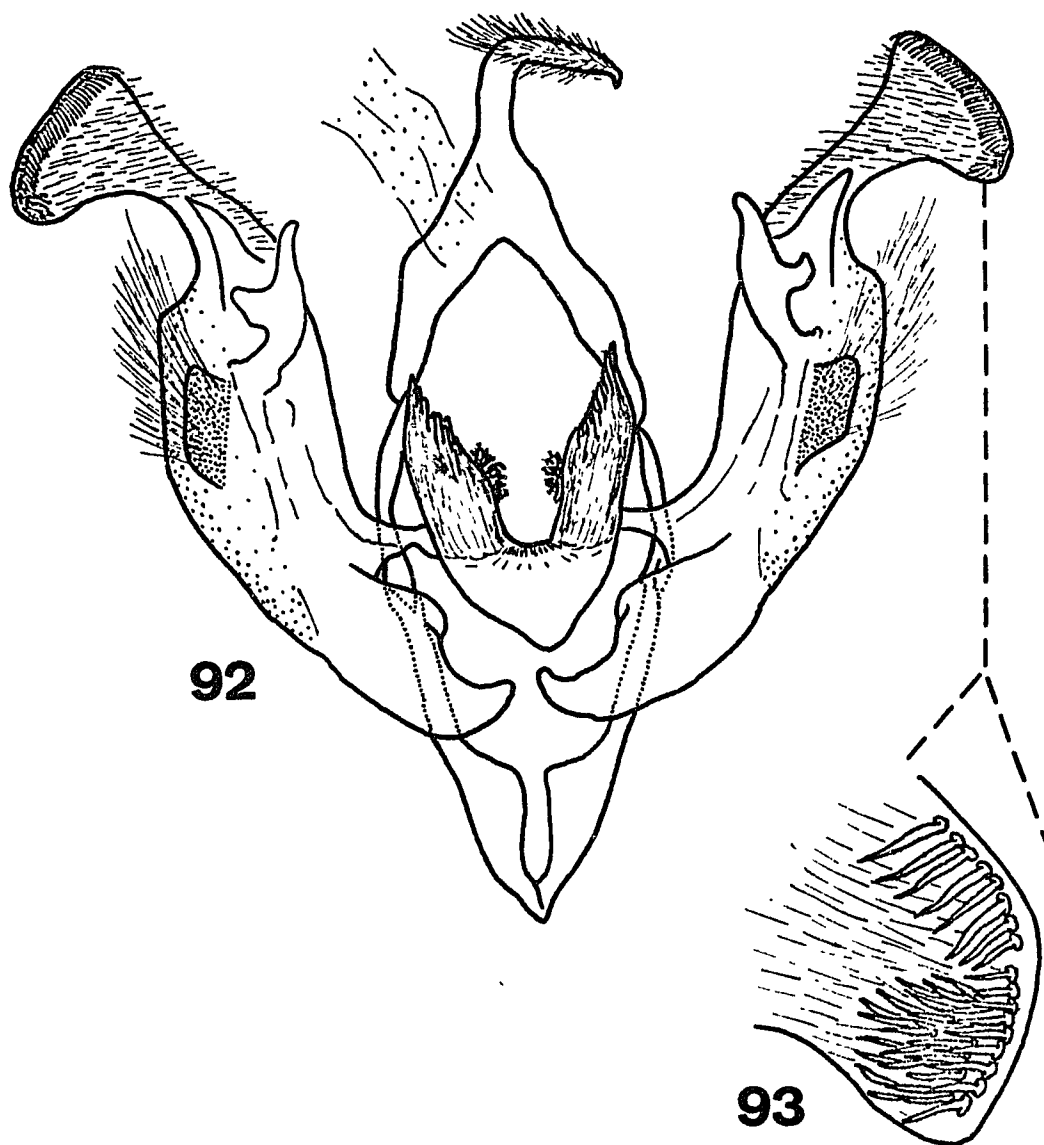
EXPLANATION OF FIGURES 88-91

88. Lacinipolia acutipennis (Grote), aedaeagus (inflated vesica), lateral view.
89. Lacinipolia vicina (Grote), aedaeagus (inflated vesica), lateral view.
90. Same, enlargement of process marked "A" as it appears in lateral view, 440X.
91. Same, shows variation between specimens.



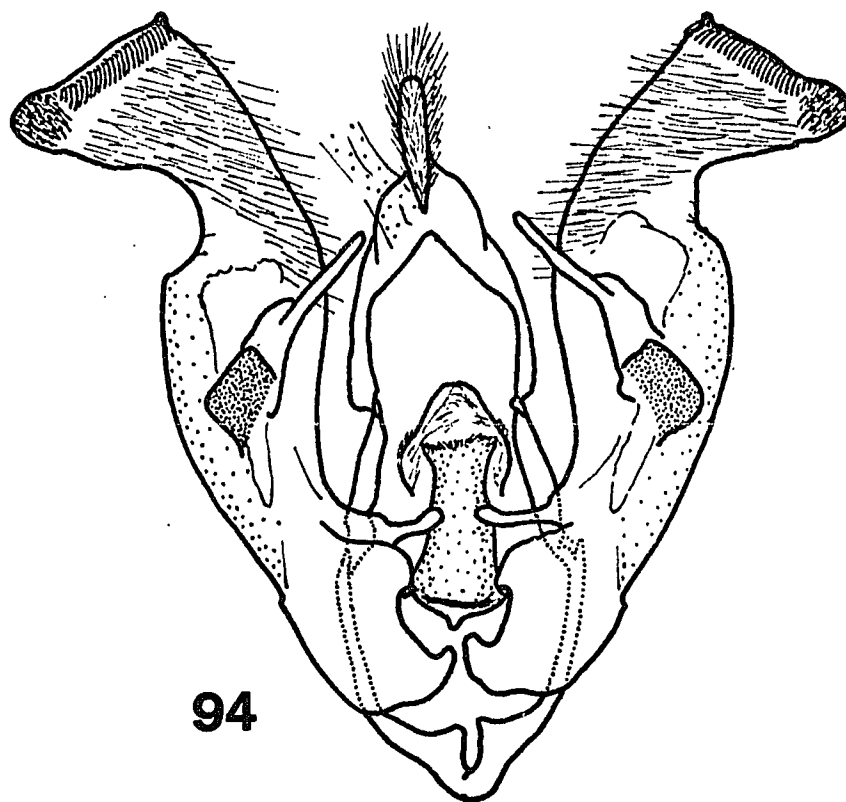
EXPLANATION OF FIGURES 92-93

92. Lacinipolia vicina (Grote), male genitalia,
caudal view.
93. Same, corner section of cucullus, 440X.

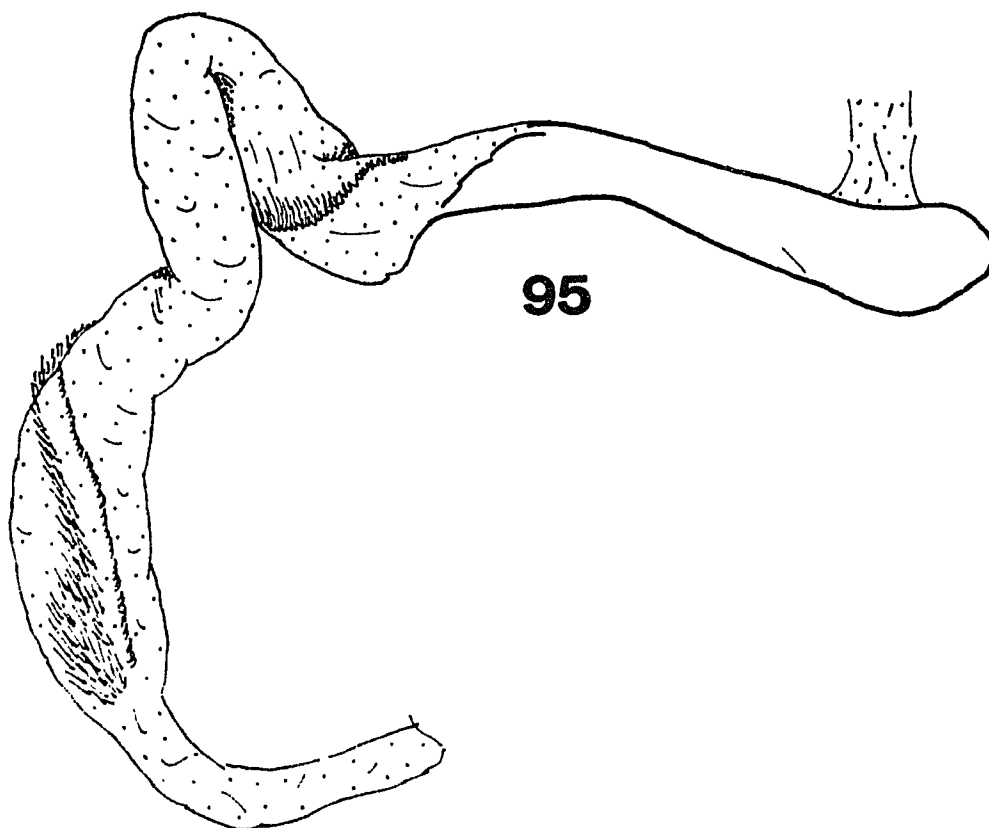


EXPLANATION OF FIGURES 94-95

94. Lacinipolia erecta (Walker), male genitalia,
caudal view.
95. Same, aedaeagus (inflated vesica), lateral view.



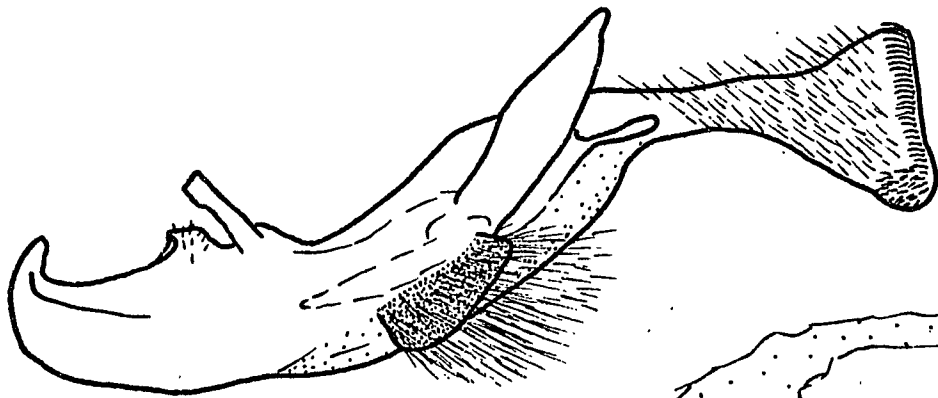
94



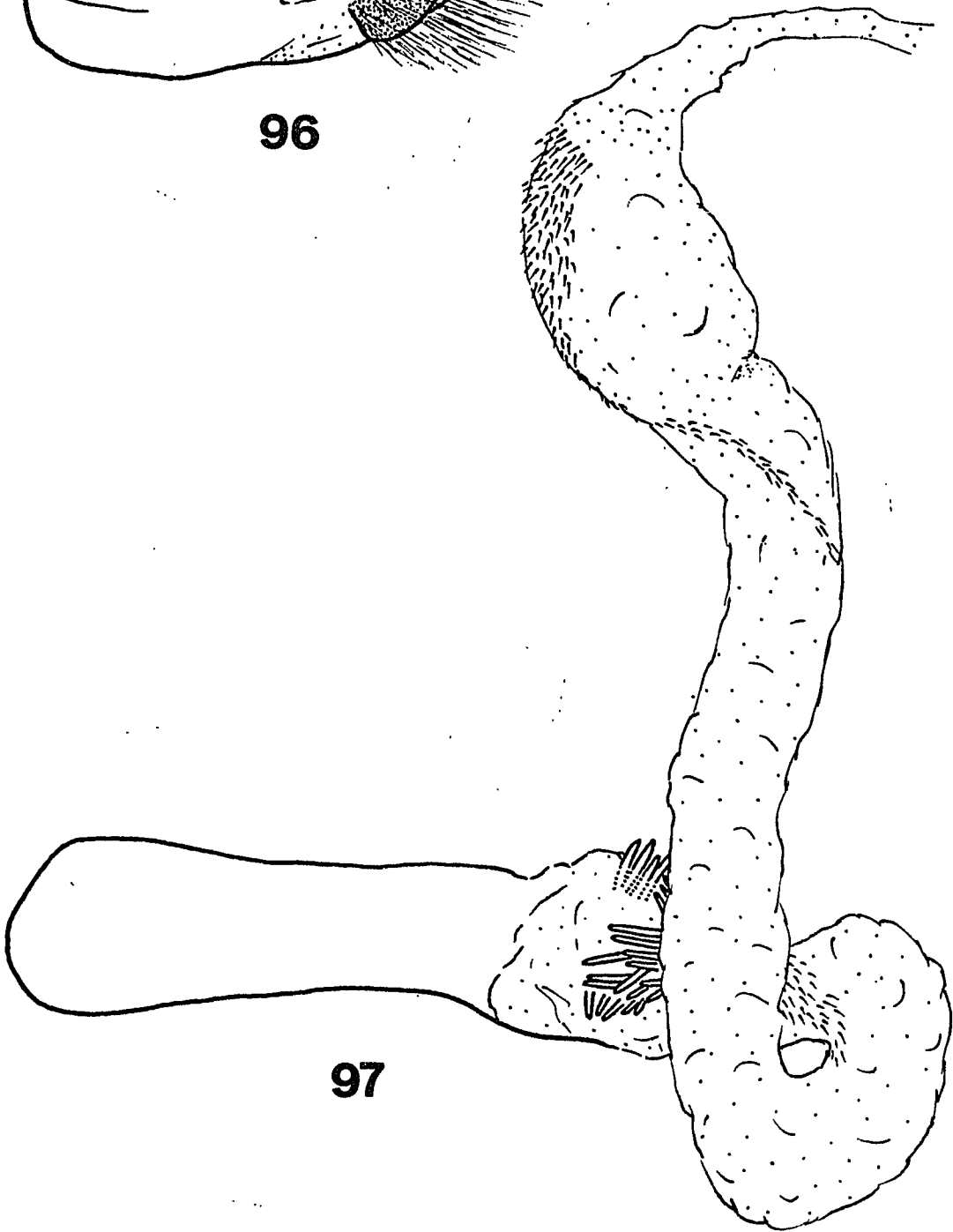
95

EXPLANATION OF FIGURES 96-97

96. Lacinipolia triplehorni n. sp., right valve,
lateral view.
97. Same, aedaeagus (inflated vesica), lateral view.



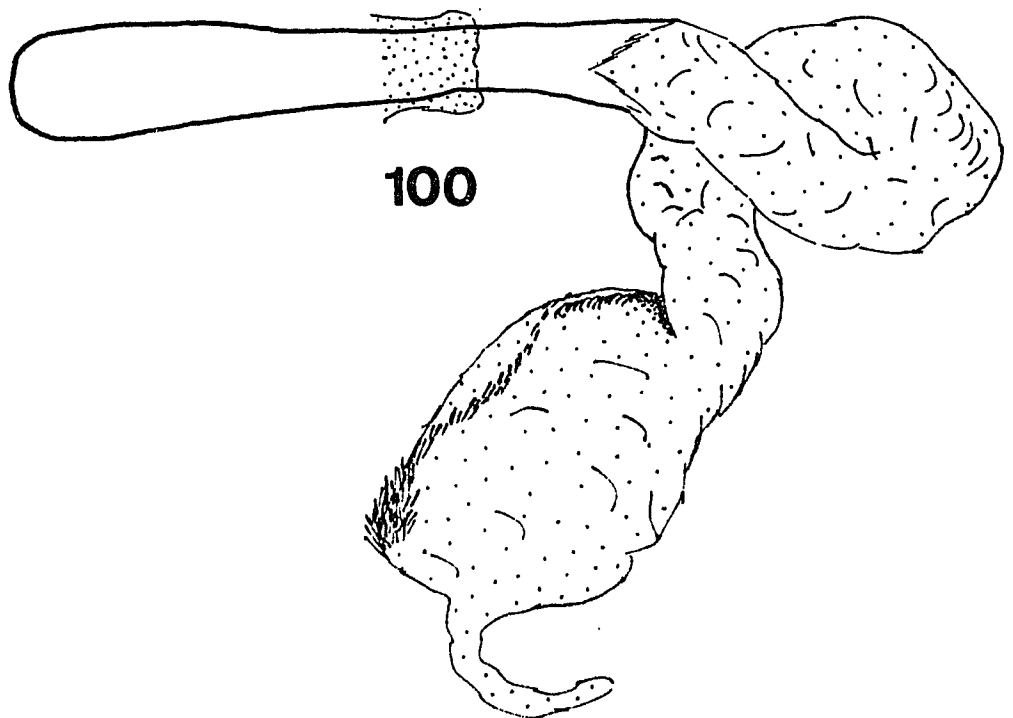
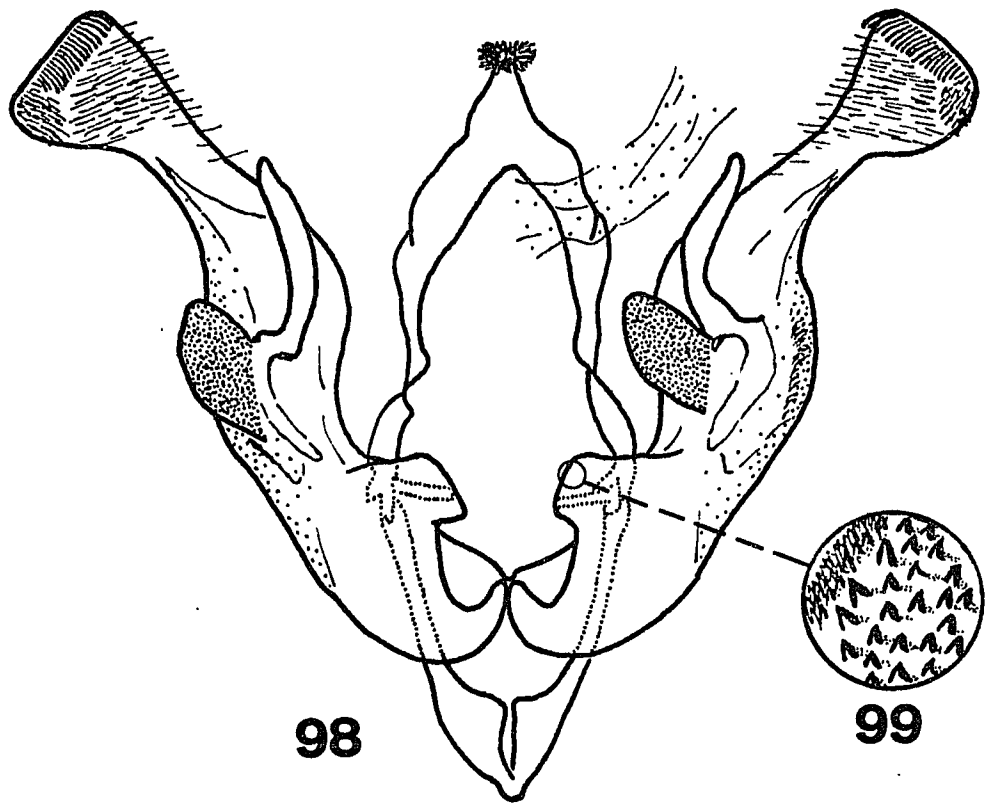
96



97

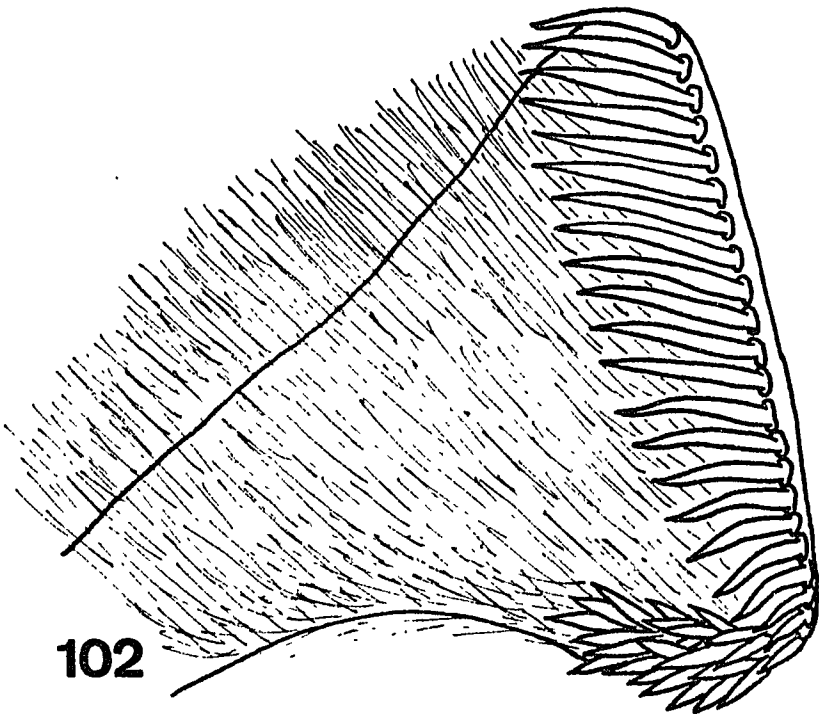
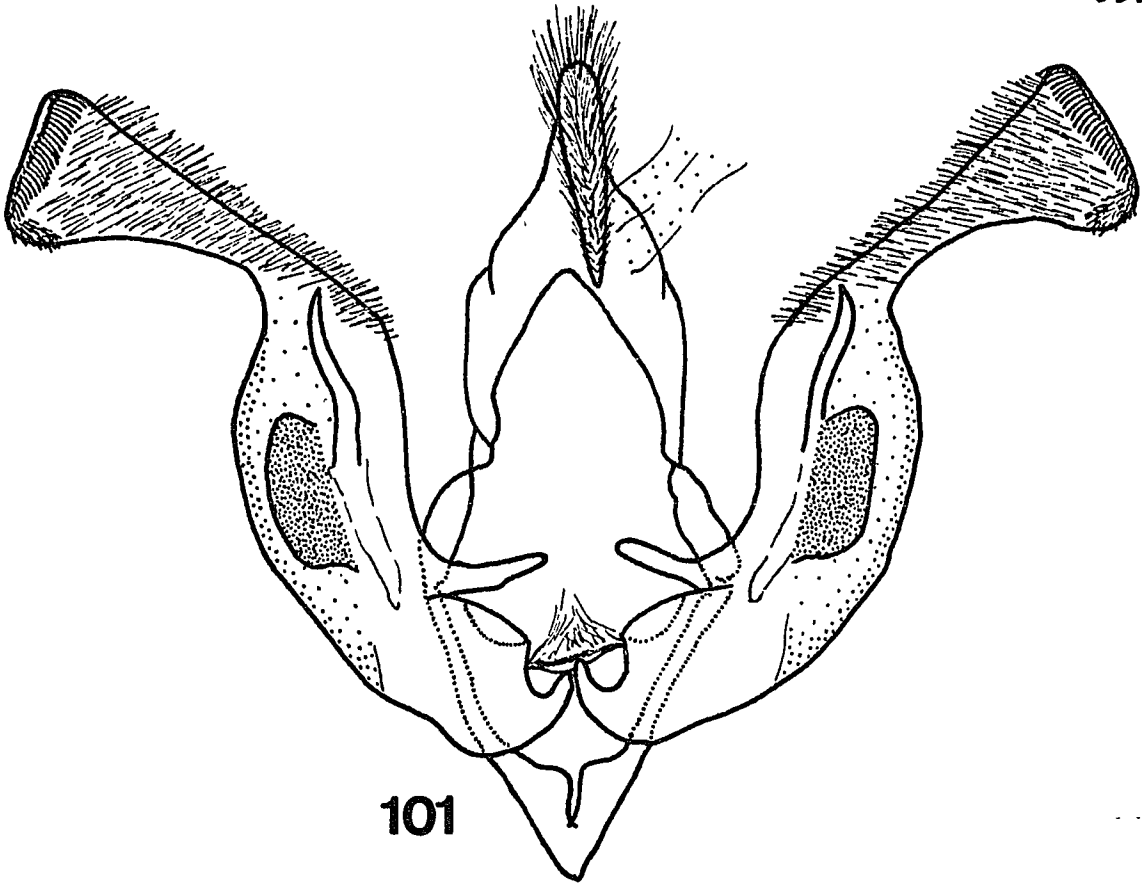
EXPLANATION OF FIGURES 98-100

98. Lacinipolia cuneata (Grote), male genitalia, caudal view.
99. Same, enlargement of circled area, 440X.
100. Same, aedaeagus (inflated vesica), lateral view.



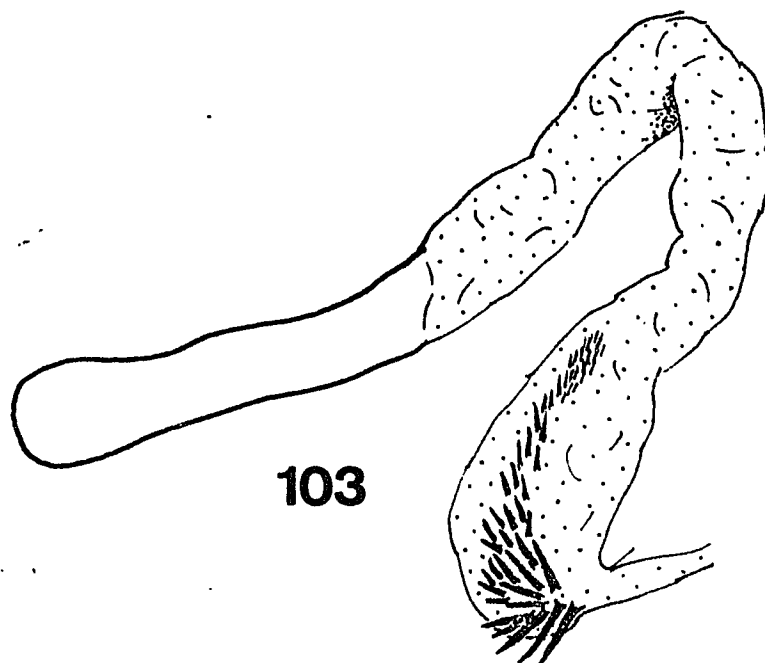
EXPLANATION OF FIGURES 101-102

101. Lacinipolia patalis (Grote), male genitalia,
caudal view.
102. Same, enlargement of cucullus, 100X.

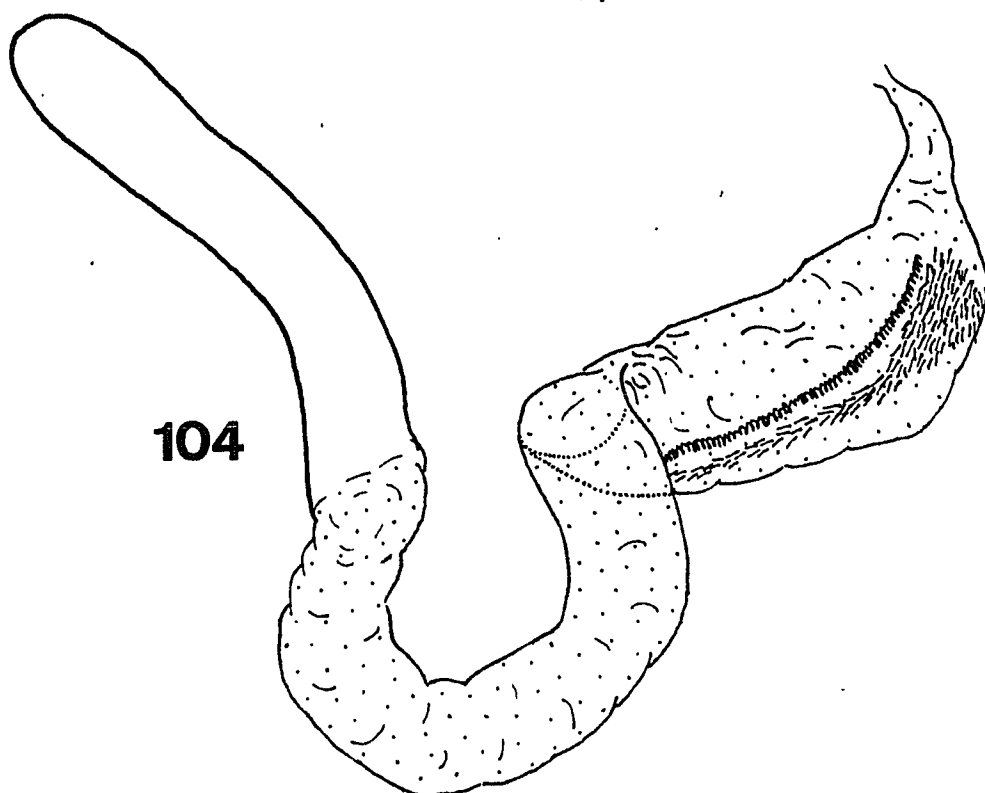


EXPLANATION OF FIGURES 103-104

103. Lacinipolia olivacea (Morrison), aedaeagus
(inflated vesica; spines near base of vesica not
showing - same as Figure 115), lateral view.
104. Lacinipolia patalis (Grote), aedaeagus
(inflated vesica), lateral view.



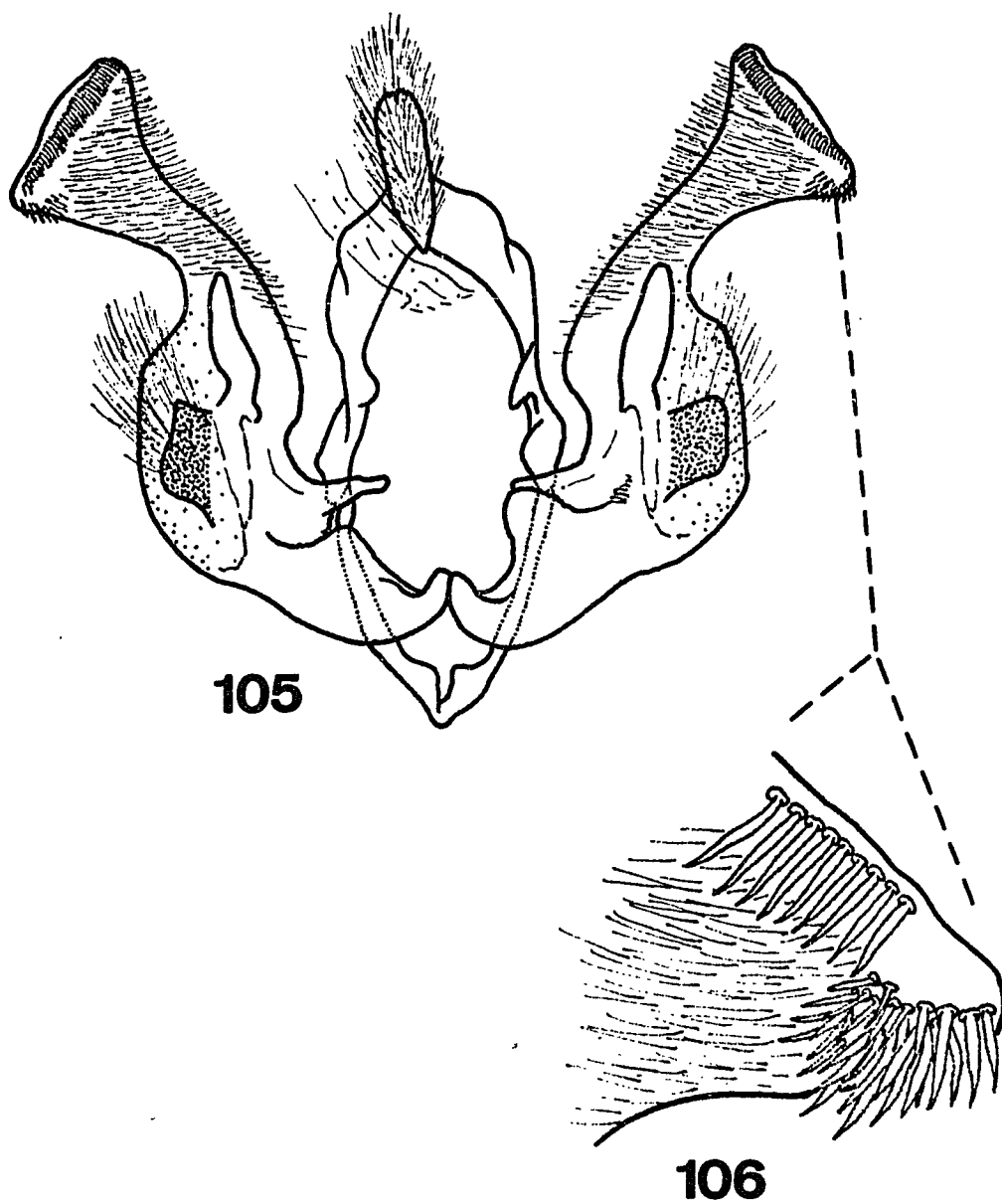
103



104

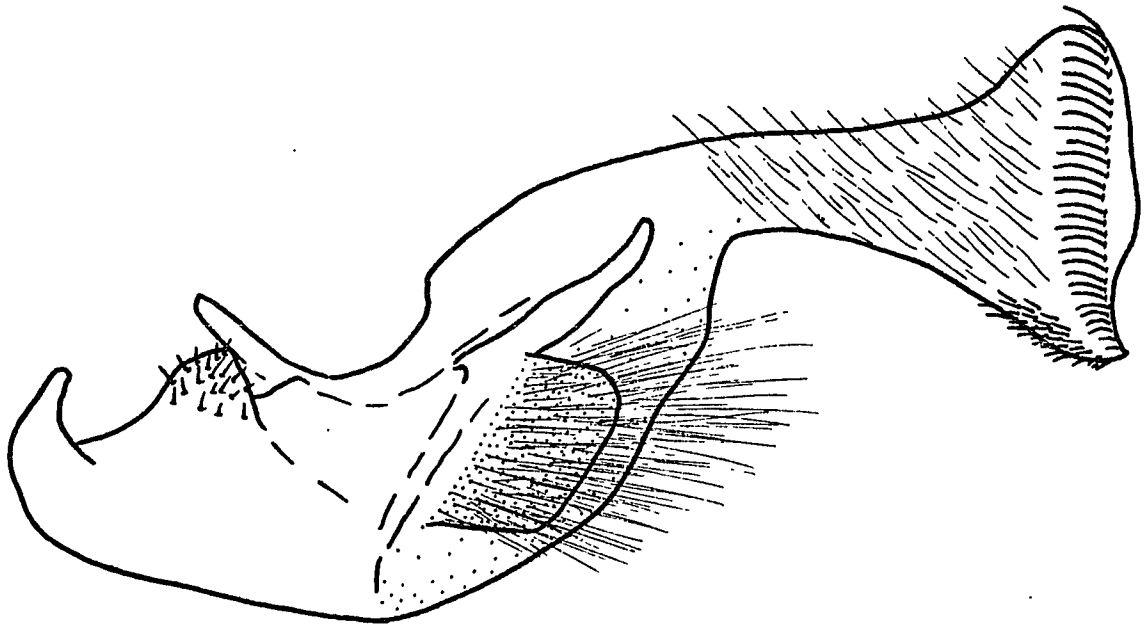
EXPLANATION OF FIGURES 105-106

105. Lacinipolia olivacea (Morrison), male genitalia,
caudal view.
106. Same, corner section of cucullus, 100X.

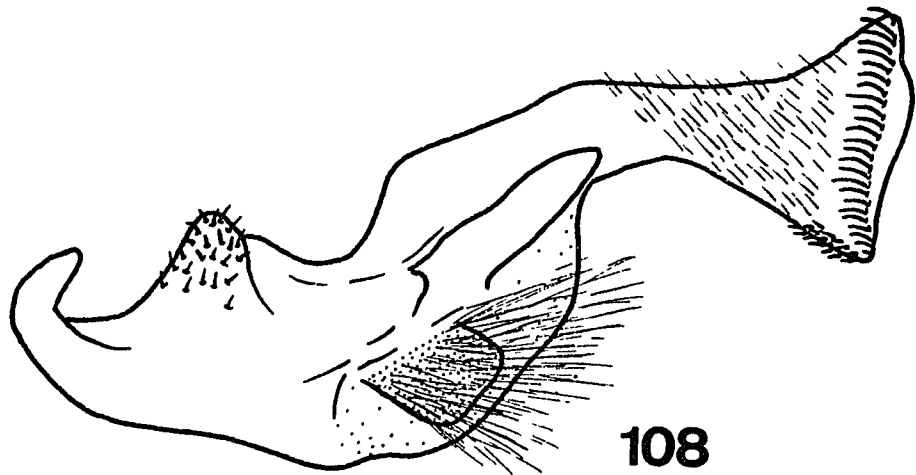


EXPLANATION OF FIGURES 107-108

107. Lacinipolia comis (Grote), right valve, lateral view.
108. Lacinipolia olivacea (Morrison), right valve, lateral view.



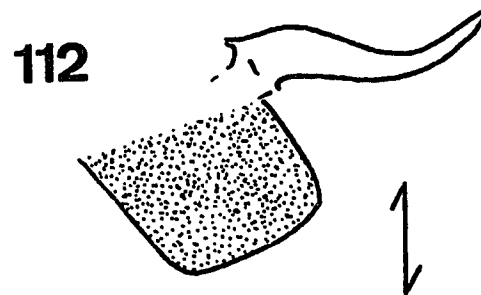
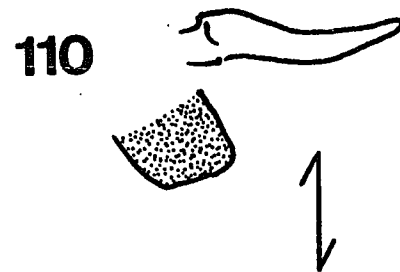
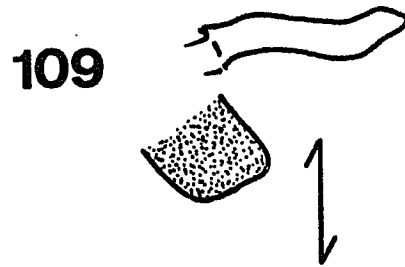
107



108

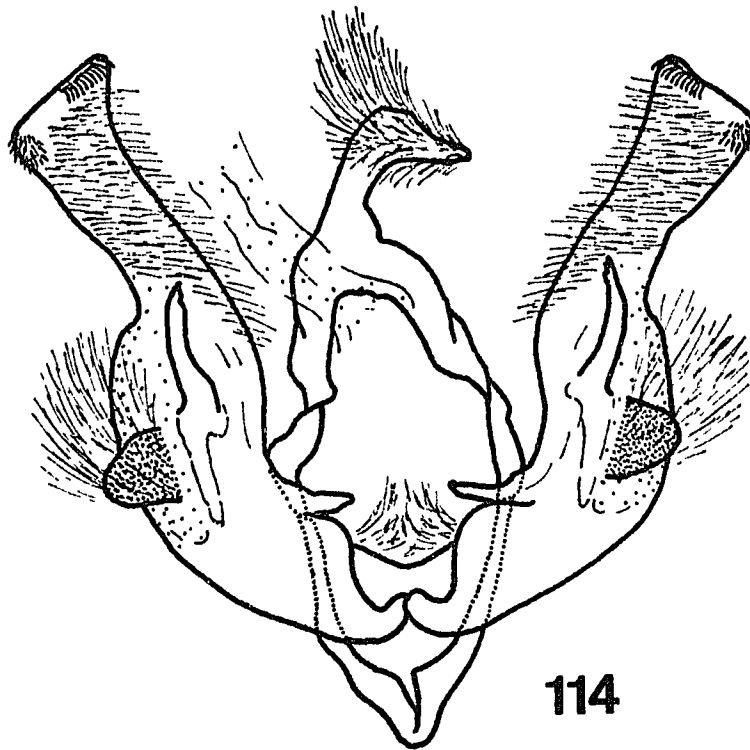
EXPLANATION OF FIGURES 109-113

- 109. Lacinipolia olivacea (Morrison), clasper and membranous flap of male genitalia drawn to same scale.
- 110. Same, showing variation between specimens.
- 111. Same.
- 112. Lacinipolia comis (Grote), clasper and membranous flap of male genitalia drawn to same scale.
- 113. Same, showing variation between specimens.



EXPLANATION OF FIGURES 114-116

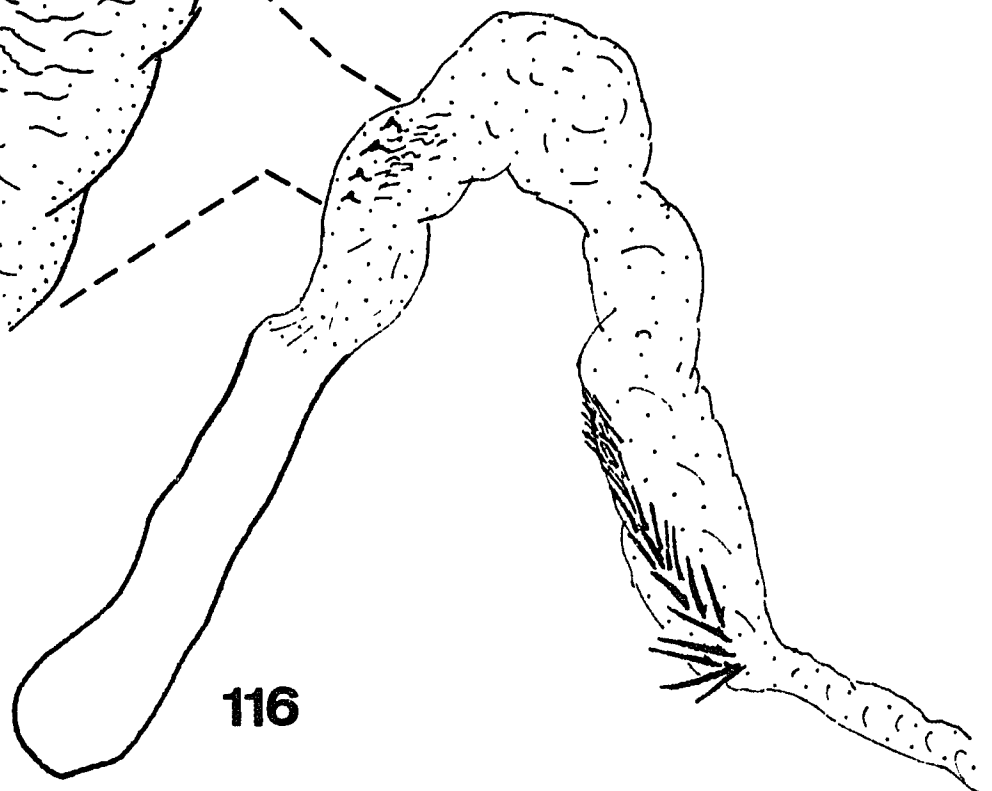
- 114. Lacinipolia davena (Smith), male genitalia, caudal view.
- 115. Same, enlarged section of vesica illustrating spines, 100X.
- 116. Same, aedaeagus (inflated vesica), lateral view.



114



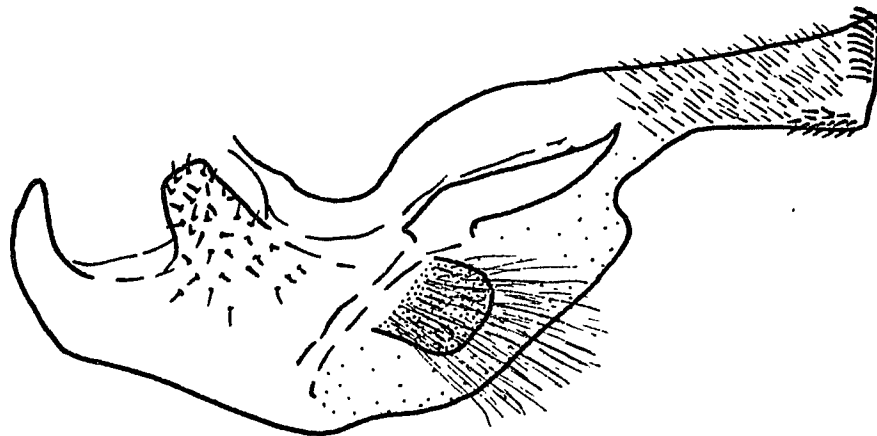
115



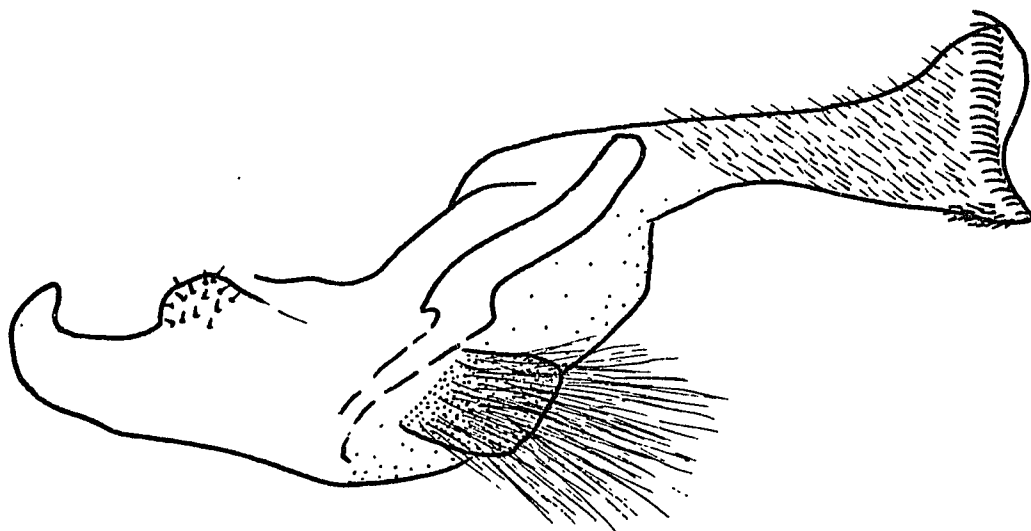
116

EXPLANATION OF FIGURES 117-119

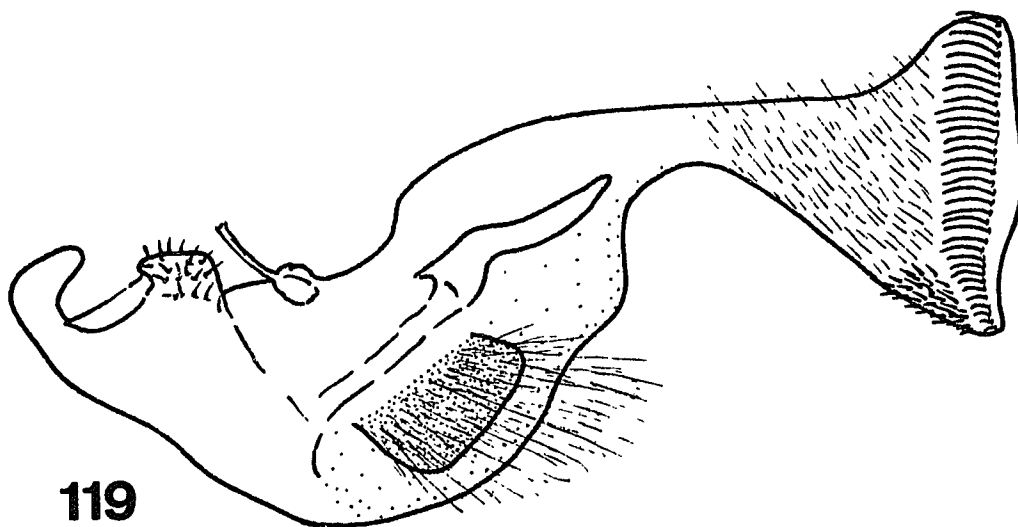
- 117. Lacinipolia davena (Smith), right valve,
lateral view.
- 118. Lacinipolia sharonae n. sp., right valve, lateral
view.
- 119. Lacinipolia rectilinea (Smith), right valve,
lateral view.



117



118

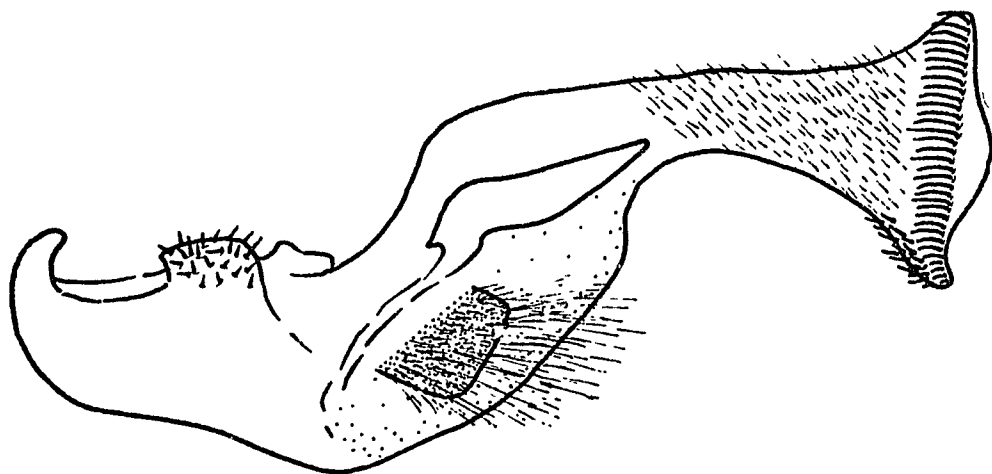


119

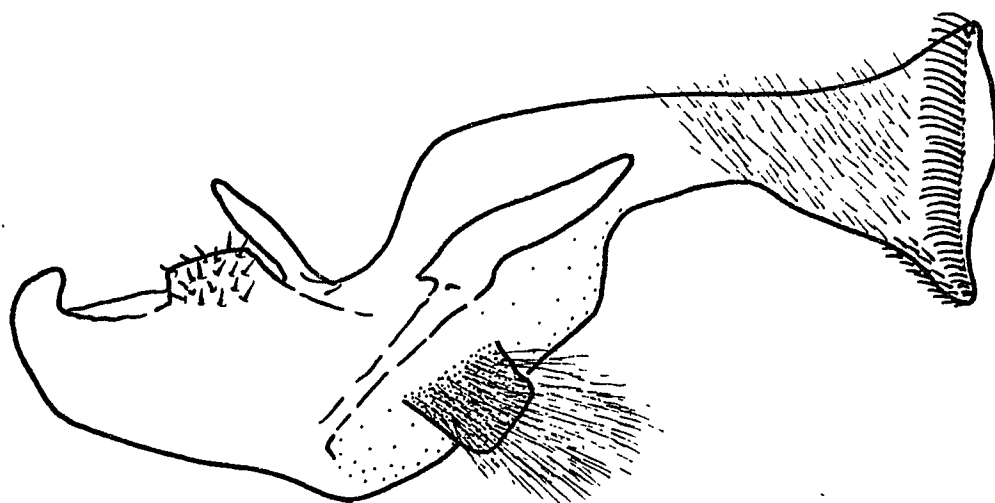
EXPLANATION OF FIGURES 120-121

120. Lacinipolia bucketti n. sp., right valve, lateral view.
121. Lacinipolia baueri n. sp., right valve, lateral view.

369



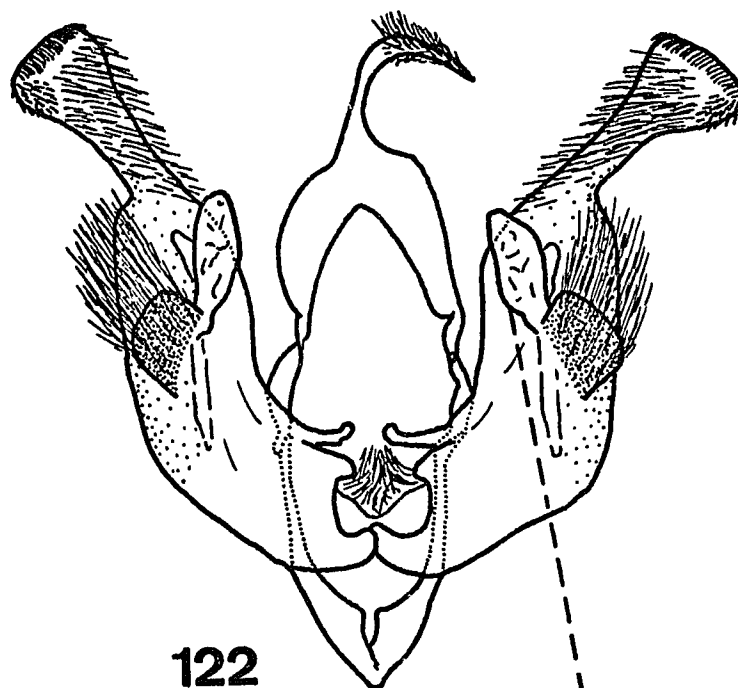
120



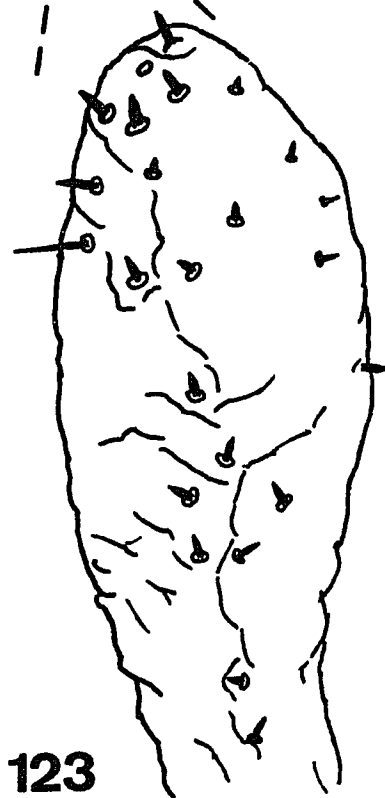
121

EXPLANATION OF FIGURES 122-123

122. Lacinipolia lorea (Guenee), male genitalia,
caudal view.
123. Same, enlargement of clasper, 330X.



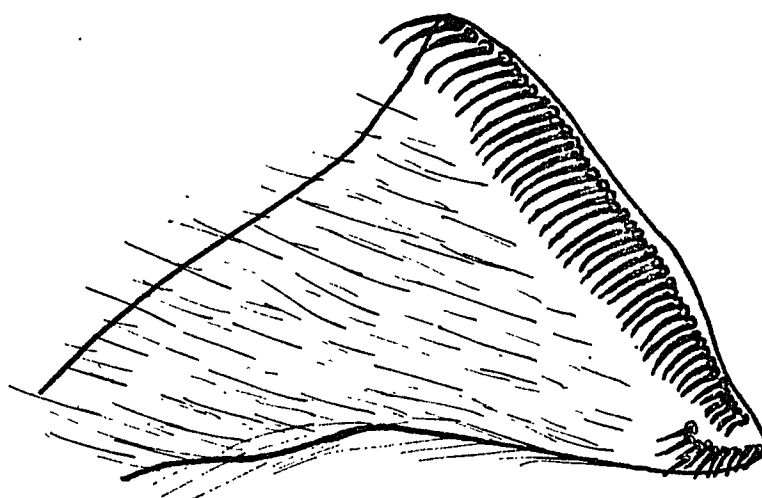
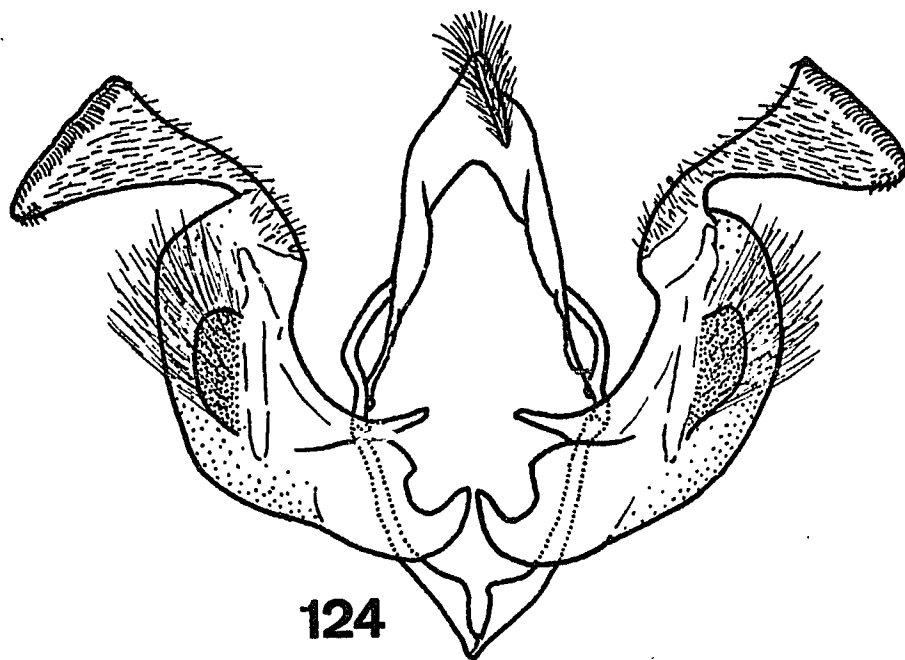
122



123

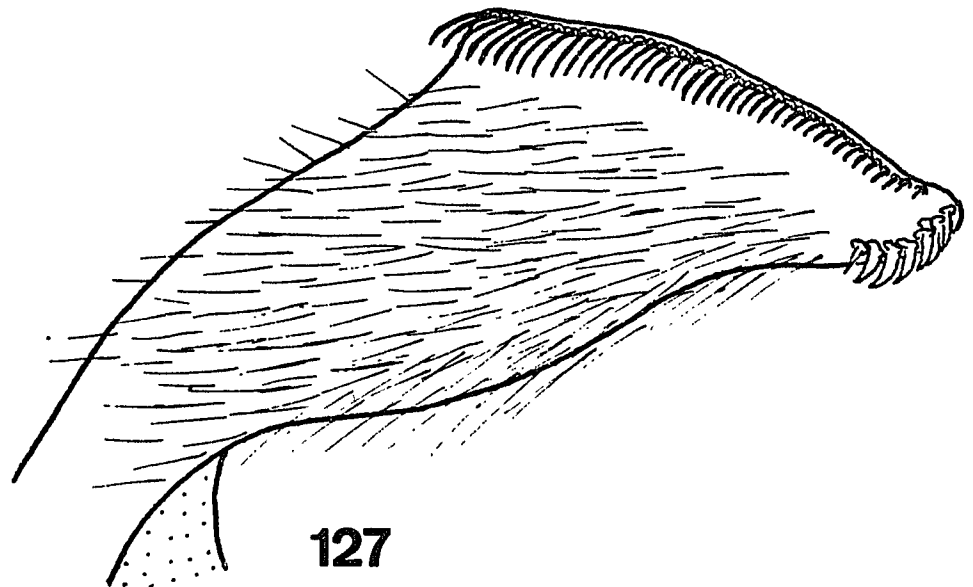
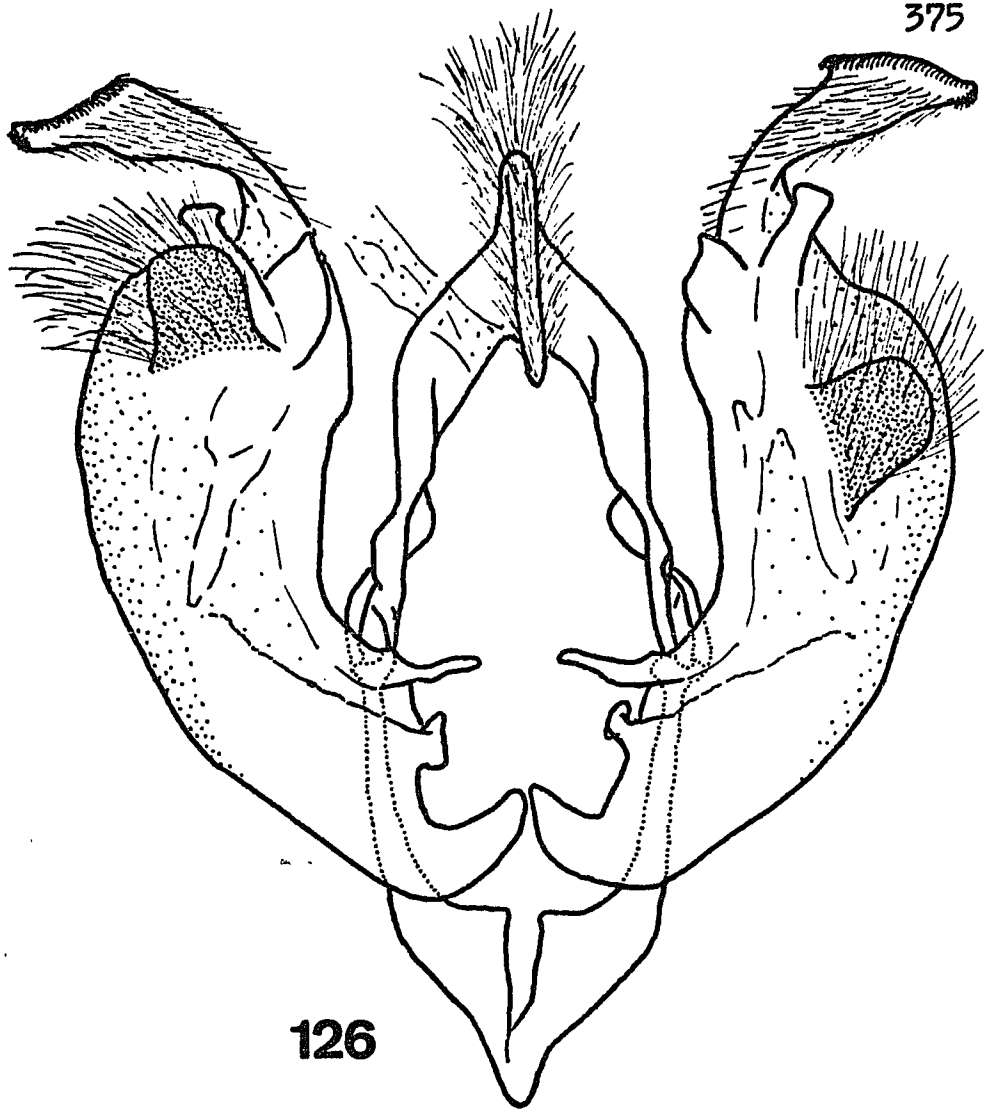
EXPLANATION OF FIGURES 124-125

124. Lacinipolia basiplaga (Smith), male genitalia,
caudal view.
125. Same, enlargement of cucullus, 200X.



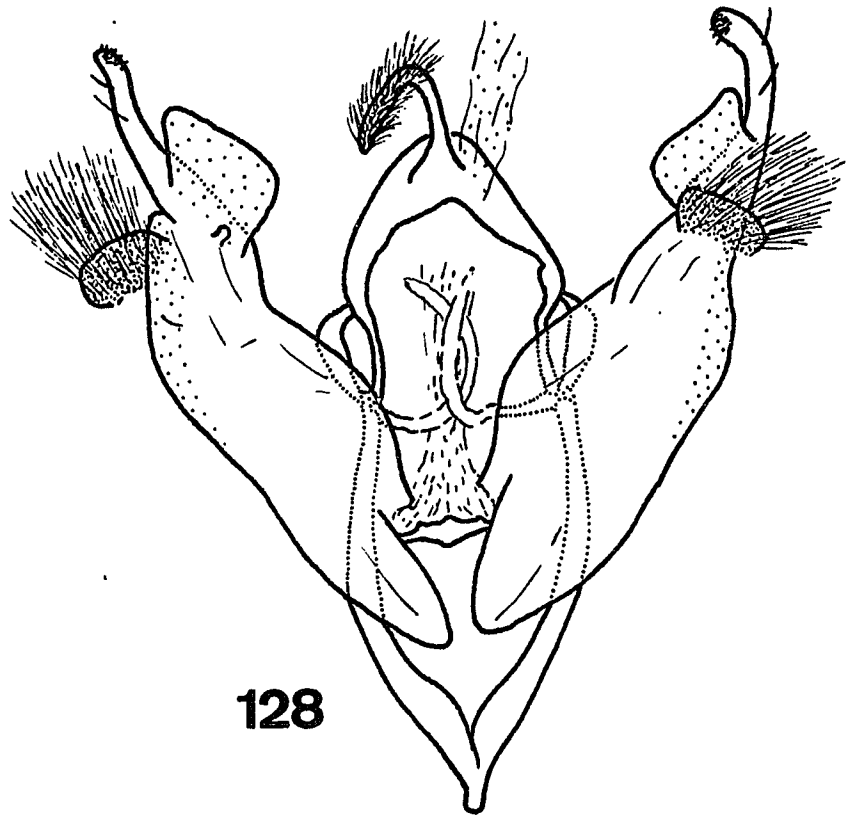
EXPLANATION OF FIGURES 126-127

126. Lacinipolia laudabilis (Guenee), male genitalia,
caudal view.
127. Same, enlargement of cucullus, 200X.

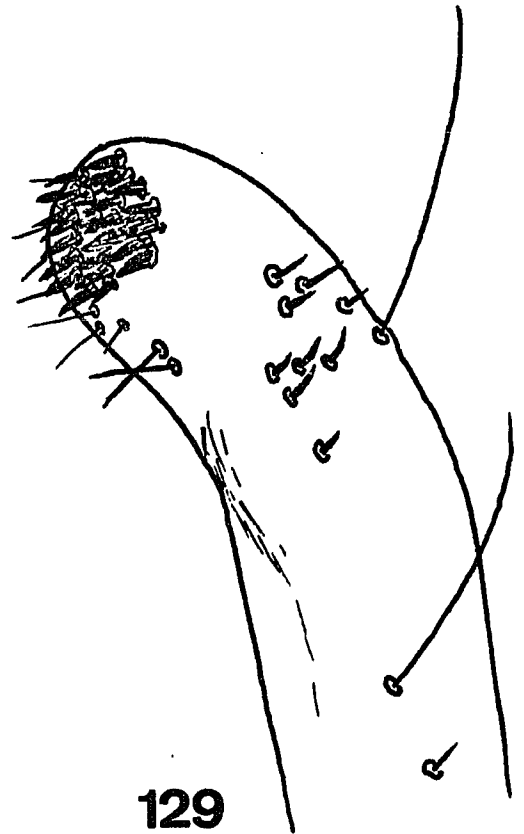


EXPLANATION OF FIGURES 128-129

128. Lacinipolia consimilis McDunnough, male genitalia,
caudal view.
129. Same, enlargement of cucullus, 200X.



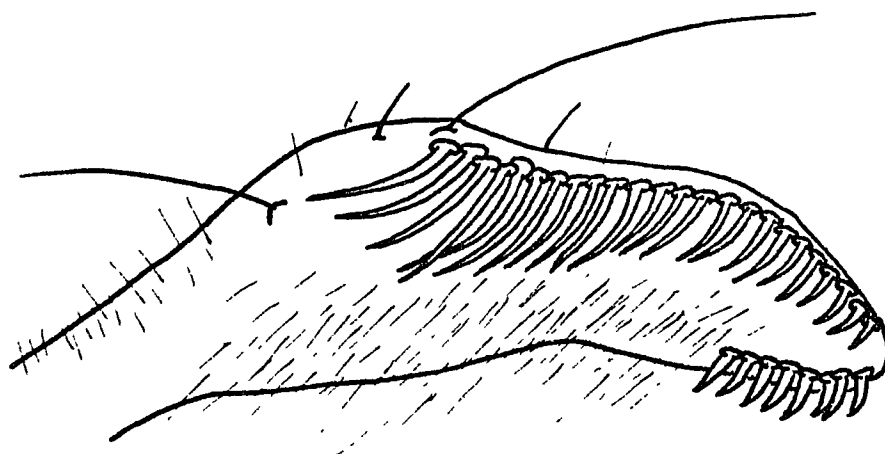
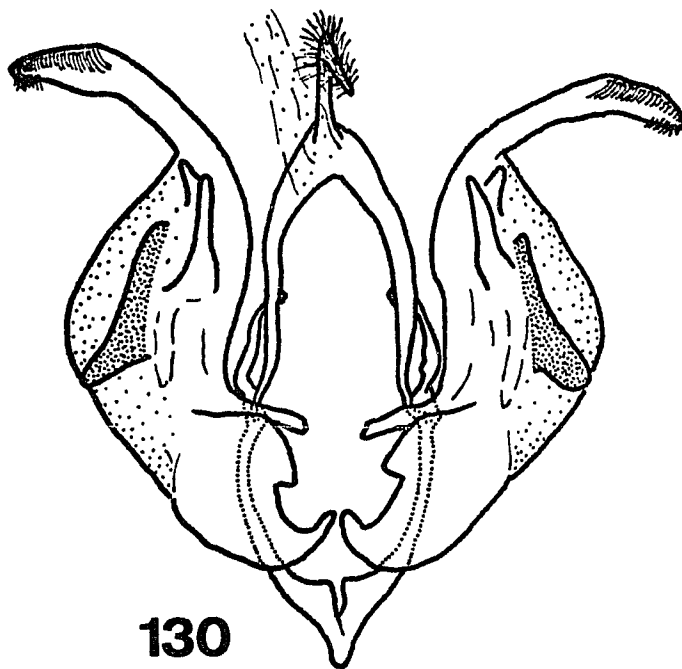
128



129

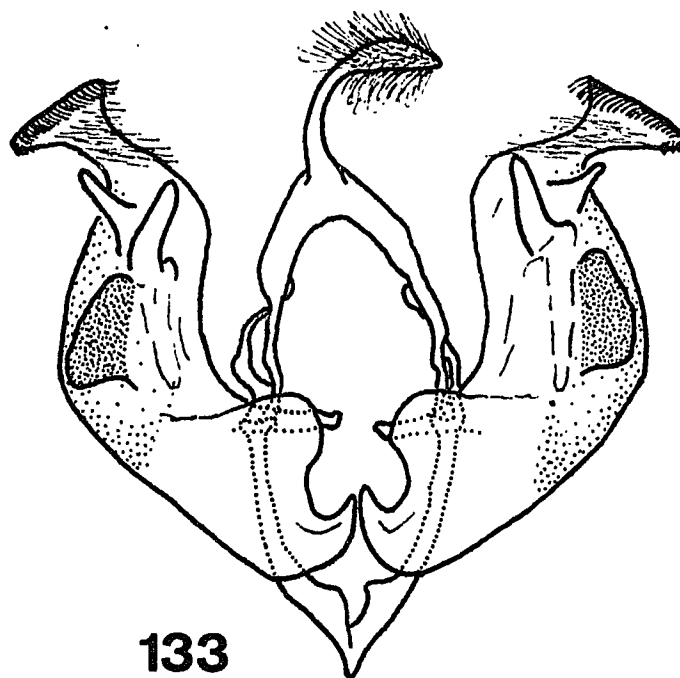
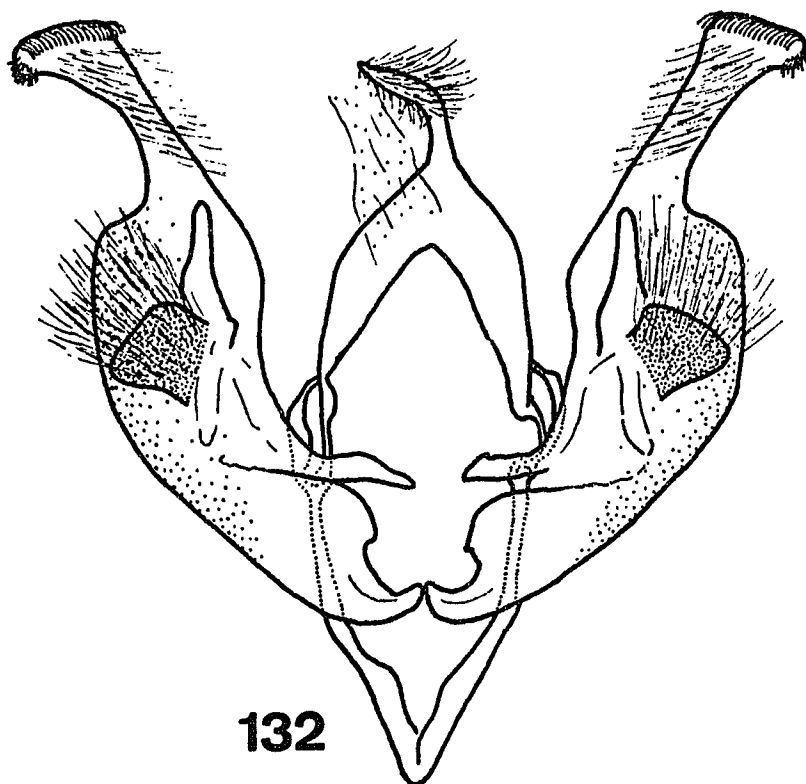
EXPLANATION OF FIGURES 130-131

130. Lacinipolia runica (Hampson), male genitalia,
caudal view.
131. Same, enlargement of cucullus, 200X.



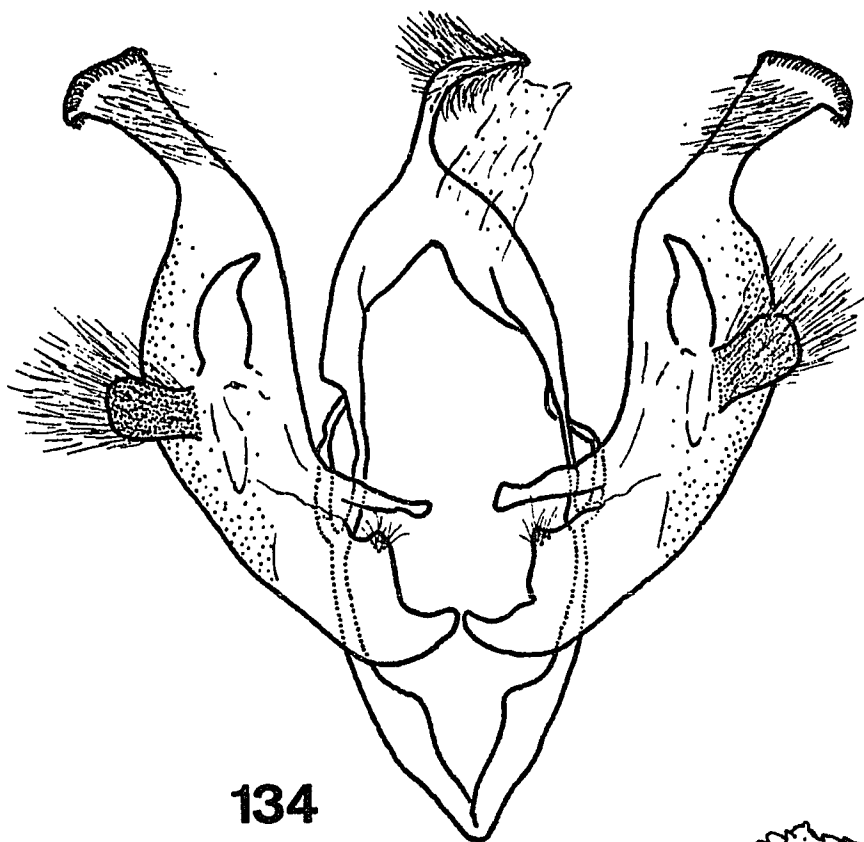
EXPLANATION OF FIGURES 132-133

132. Lacinipolia implicata McDunnough, male genitalia,
caudal view.
133. Lacinipolia viridifera McDunnough, male genitalia,
caudal view.

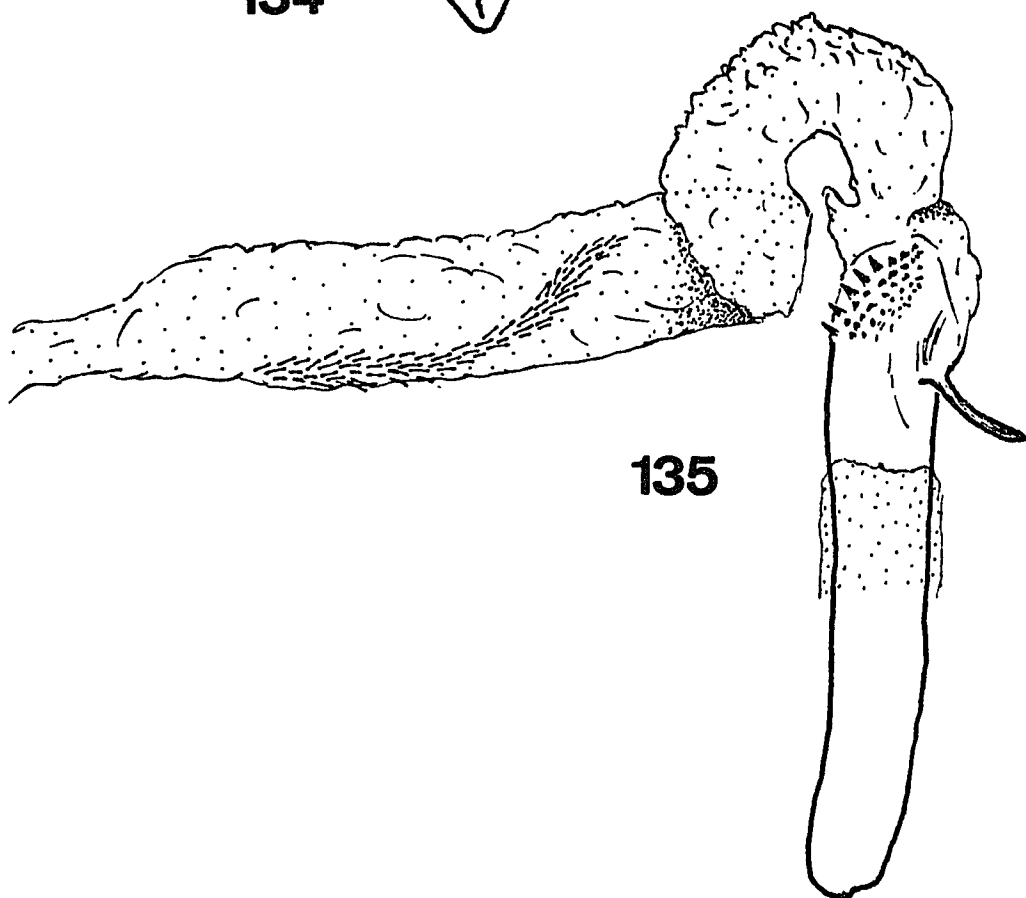


EXPLANATION OF FIGURES 134-135

134. Lacinipolia explicata McDunnough, male genitalia,
caudal view.
135. Same, aedaeagus (inflated vesica), lateral view.



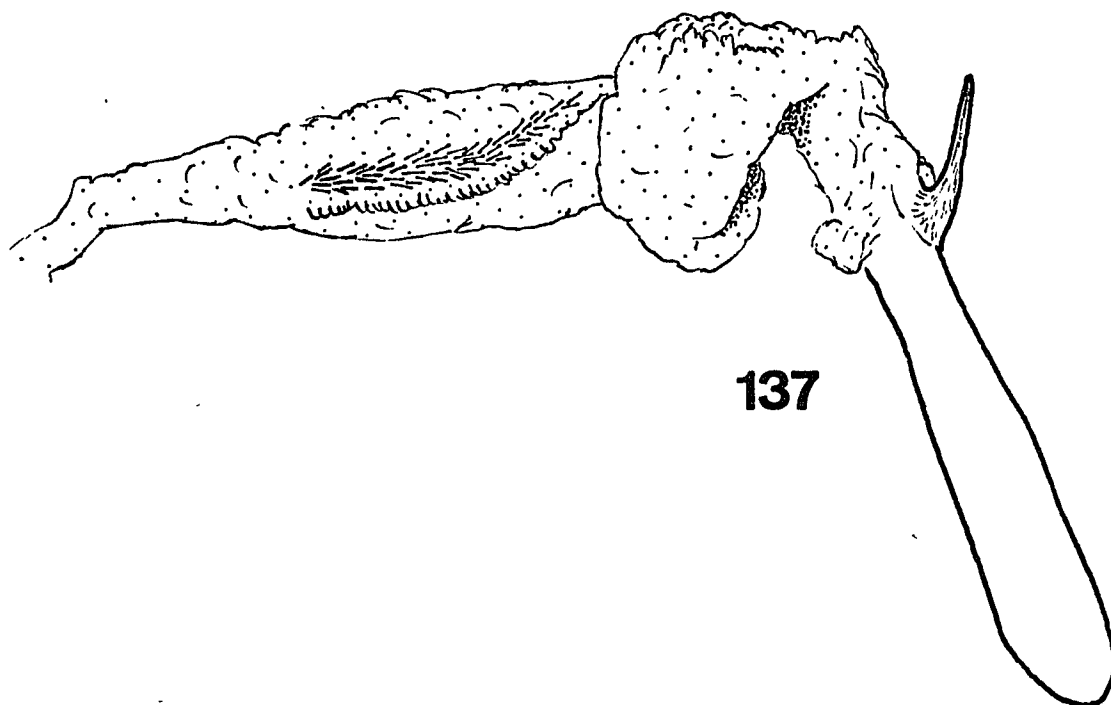
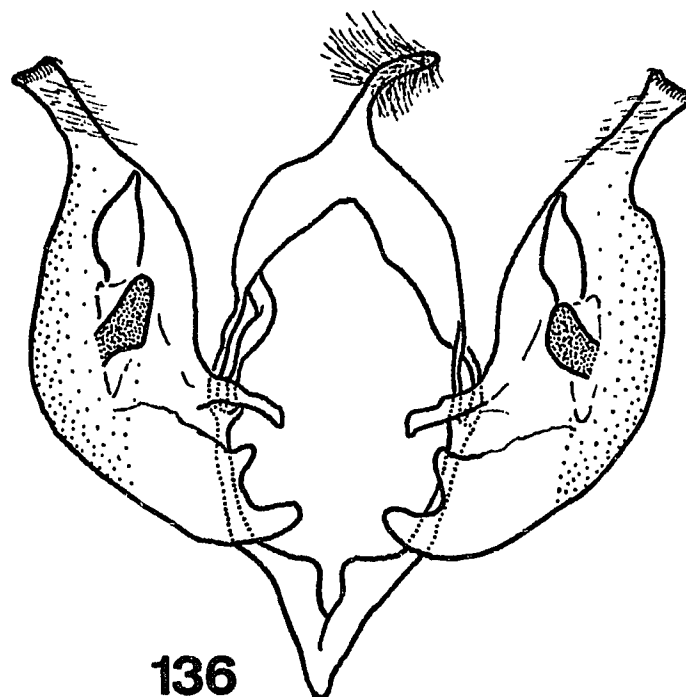
134



135

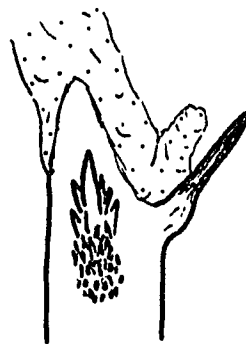
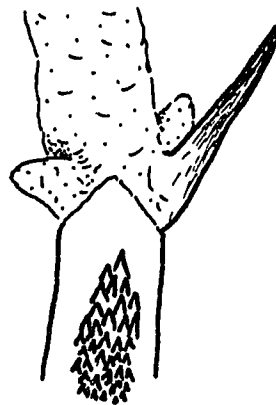
EXPLANATION OF FIGURES 136-137

136. Lacinipolia quadrilineata (Grote), male
genitalia, caudal view.
137. Same, aedaeagus (inflated vesica), lateral view.



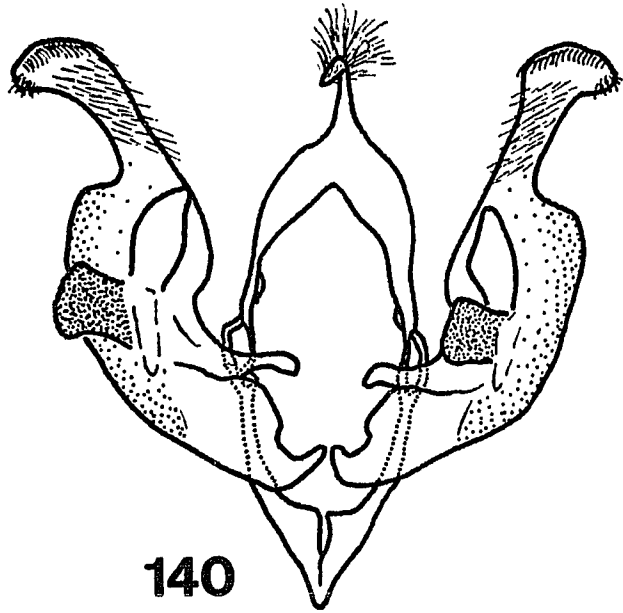
EXPLANATION OF FIGURES 138-139

138. Lacinipolia martini n. sp., apex of aedaeagus
(base of vesica), 60X.
139. Lacinipolia quadrilineata (Grote), apex of
aedaeagus (base of vesica), 60X.

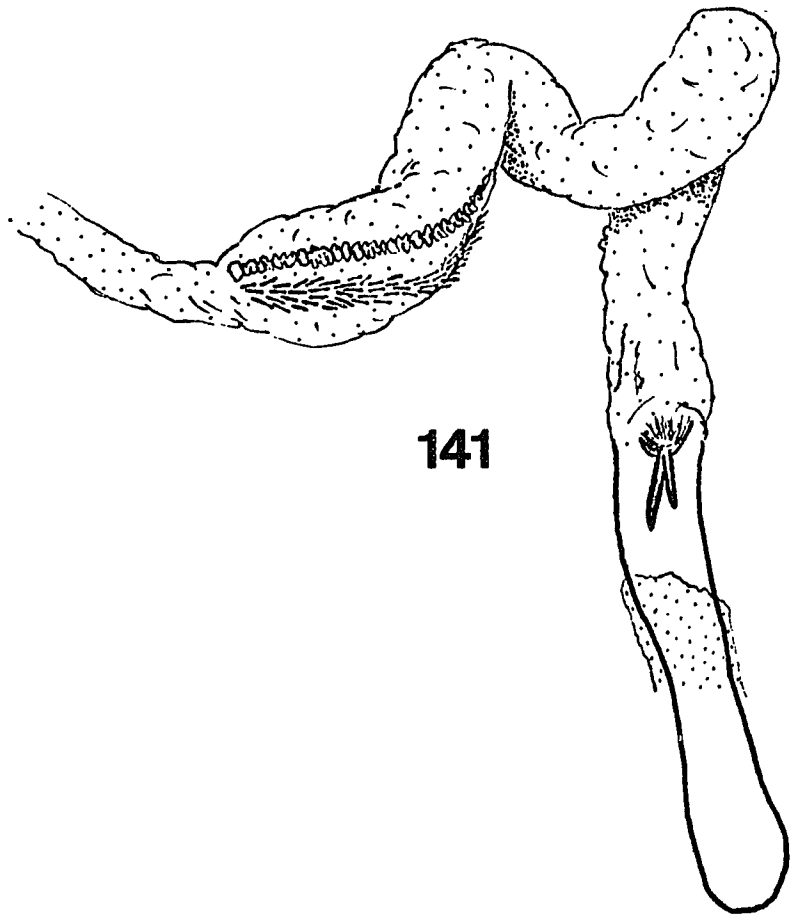
**138****139**

EXPLANATION OF FIGURES 140-141

140. Lacinipolia tricornuta McDunnough, male genitalia,
caudal view.
141. Same, aedaeagus (inflated vesica), lateral view.



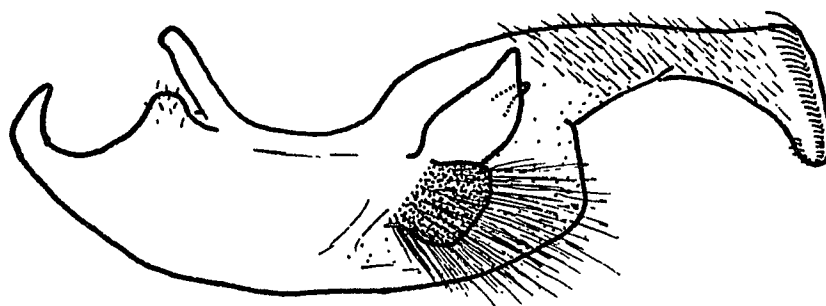
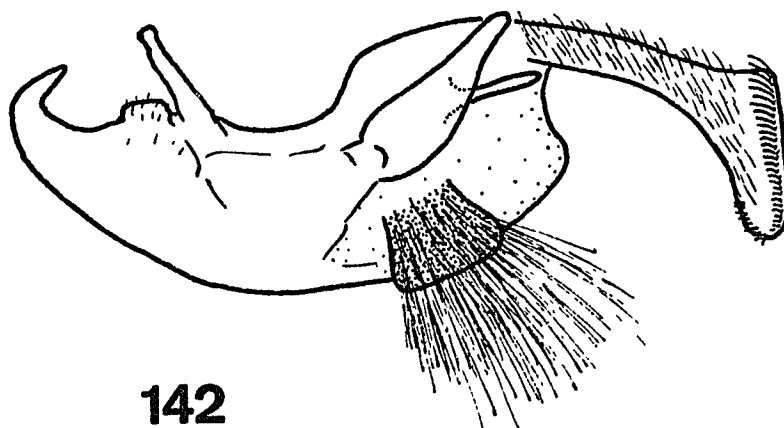
140



141

EXPLANATION OF FIGURES 142-143

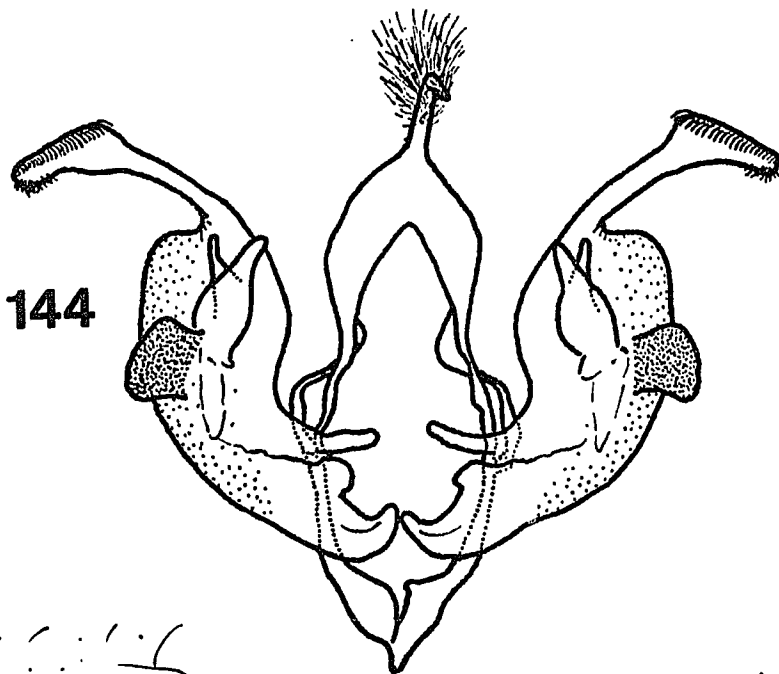
142. Lacinipolia strigicollis (Wallengren) right valve, lateral view.
143. Lacinipolia dilatata (Smith), right valve, lateral view.



EXPLANATION OF FIGURES 144-147

- 144. Lacinipolia strigicollis (Wallengren), male genitalia, caudal view.
- 145. Same, apex of aedaeagus (base of vesica), 200X.
- 146. Same, showing variation between specimens.
- 147. Same.

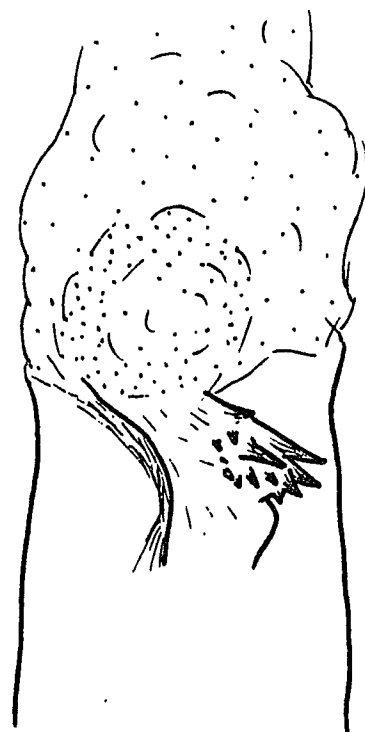
144



145



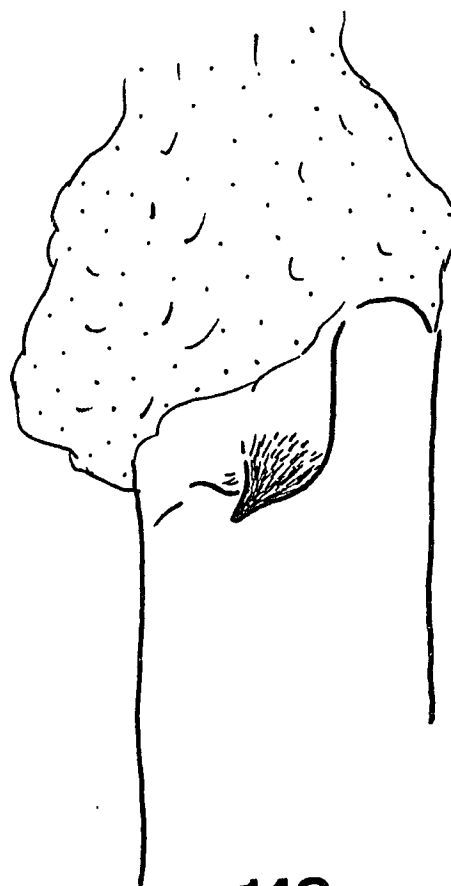
146



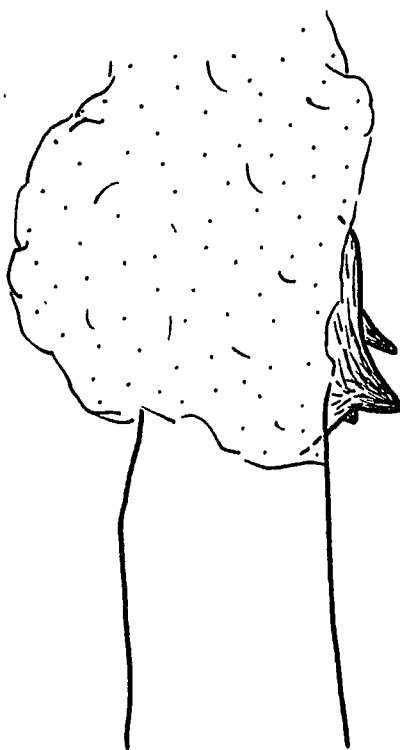
147

EXPLANATION OF FIGURES 148-149

148. Lacinipolia dilatata (Smith), apex of aedaeagus
(base of vesica), 200X.
149. Same, showing variation between specimens.



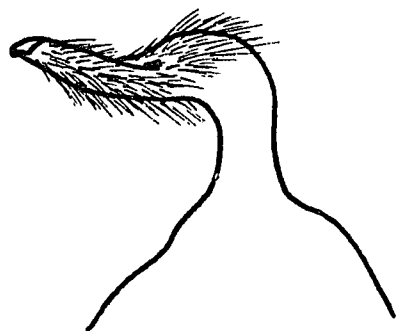
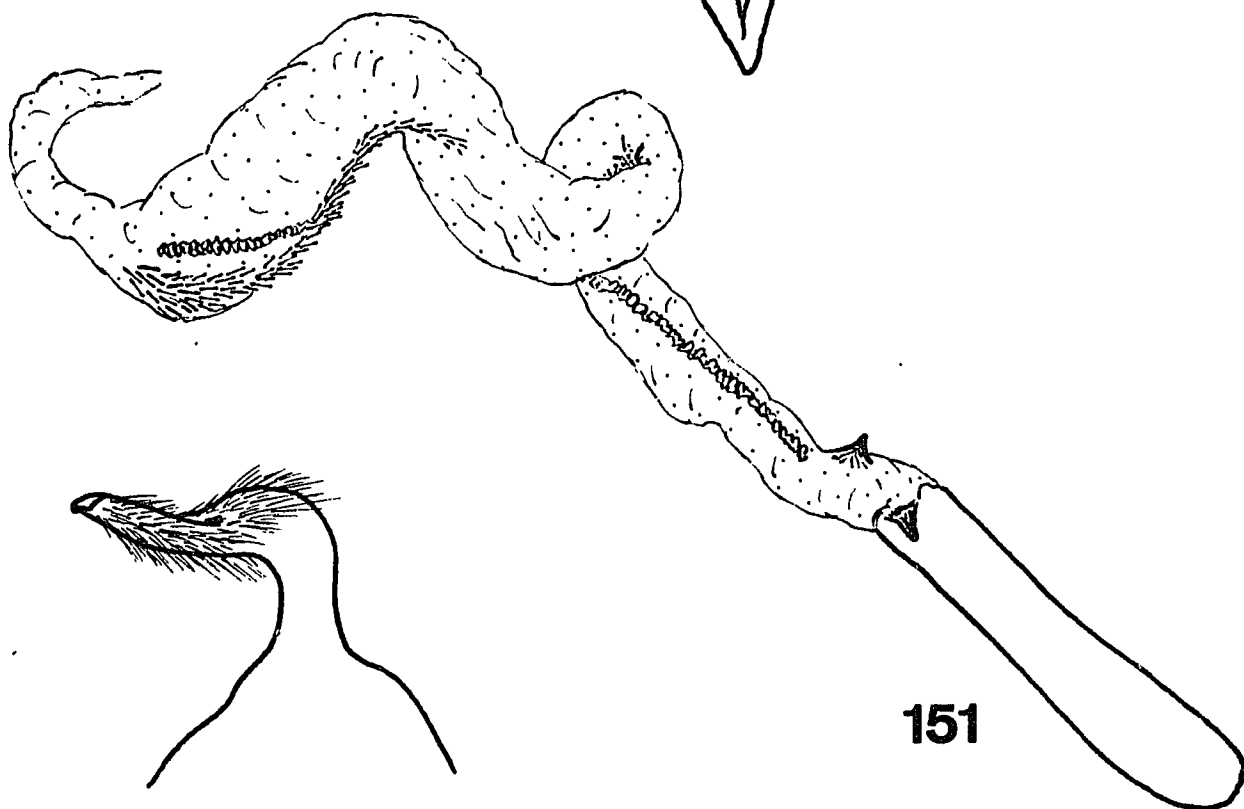
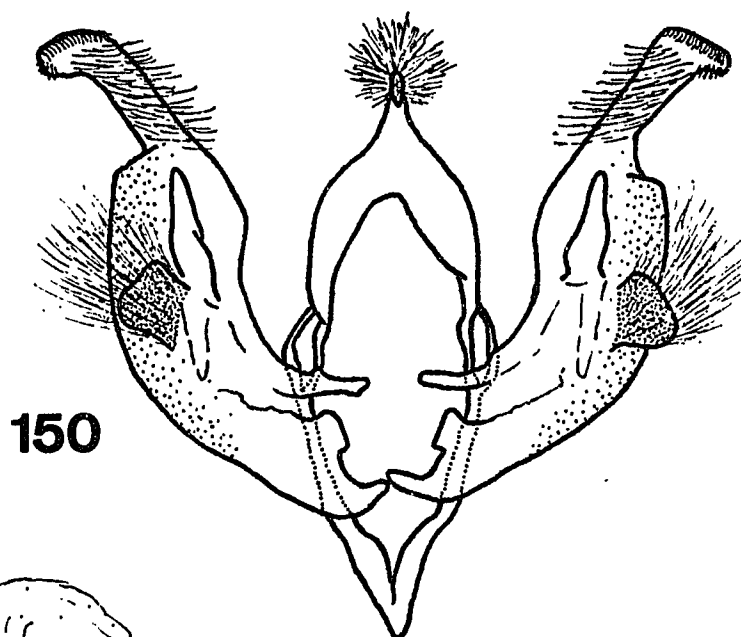
148



149

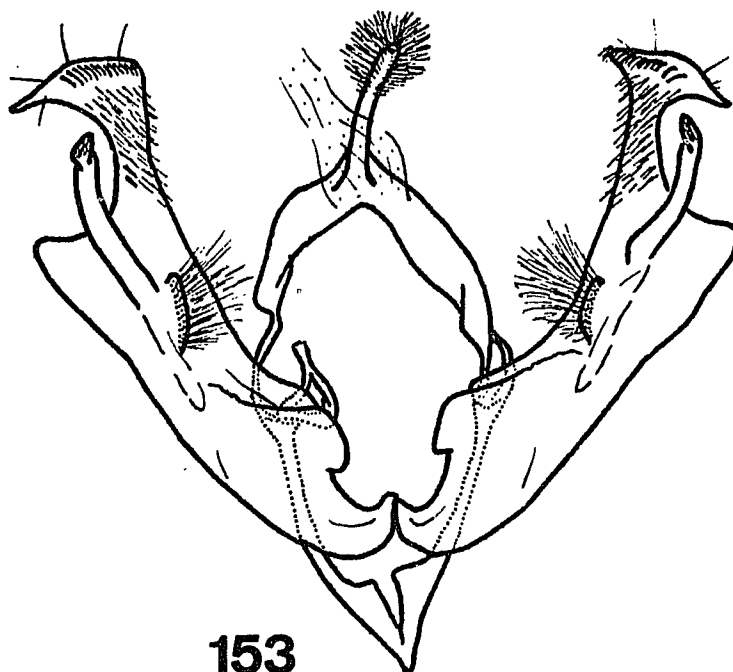
EXPLANATION OF FIGURES 150-152

150. Lacinipolia marinitincta (Harvey), male genitalia, caudal view.
151. Same, aedaeagus (inflated vesica), lateral view.
152. Same, uncus, 60X.

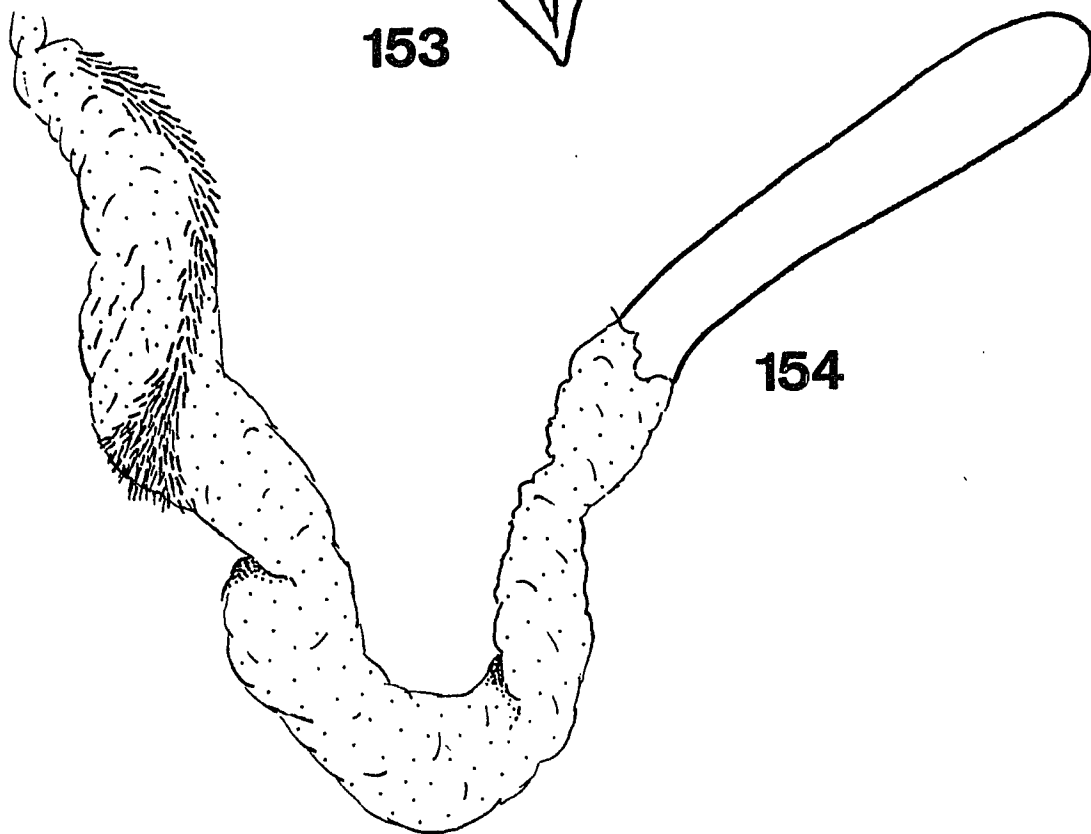


EXPLANATION OF FIGURES 153-154

153. Lacinipolia spiculosa (Grote), male genitalia,
caudal view.
154. Same, aedaeagus (inflated vesica), lateral view.



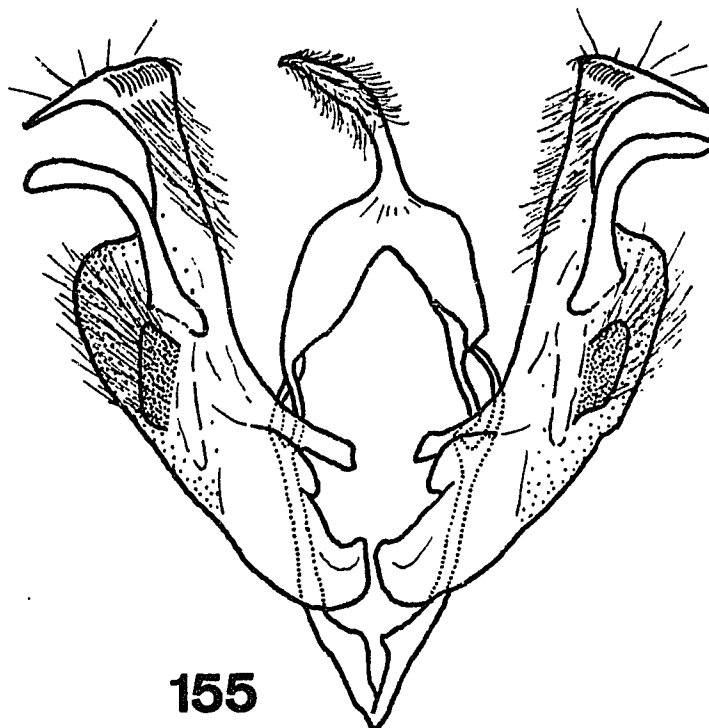
153



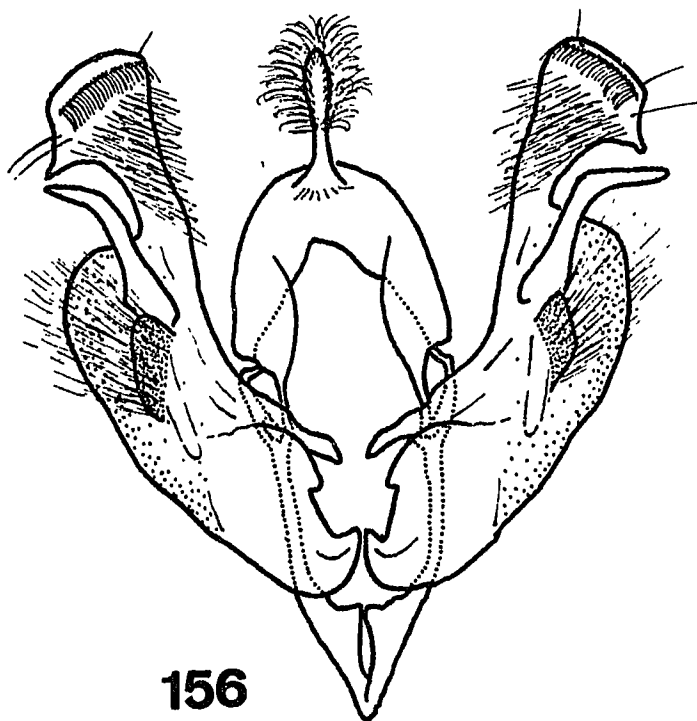
154

EXPLANATION OF FIGURES 155-156

155. Lacinipolia renigera (Stephens), male genitalia,
caudal view.
156. Lacinipolia stricta (Walker), male genitalia,
caudal view.



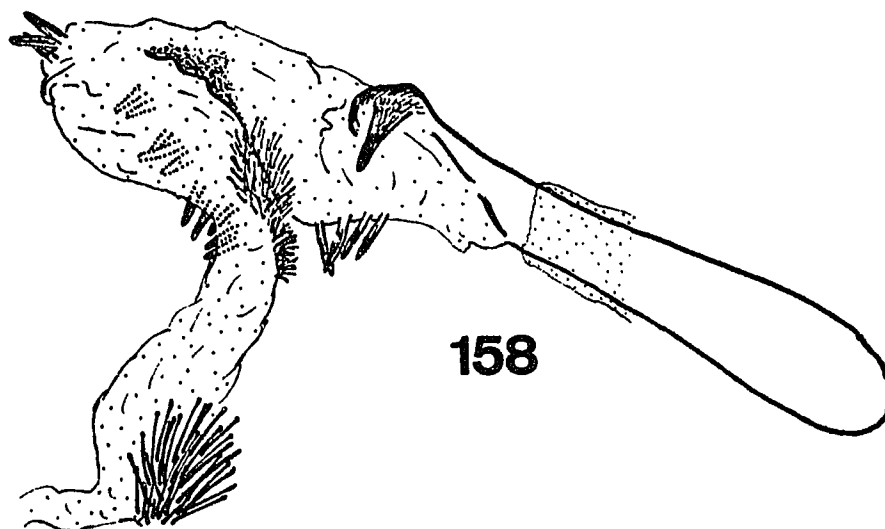
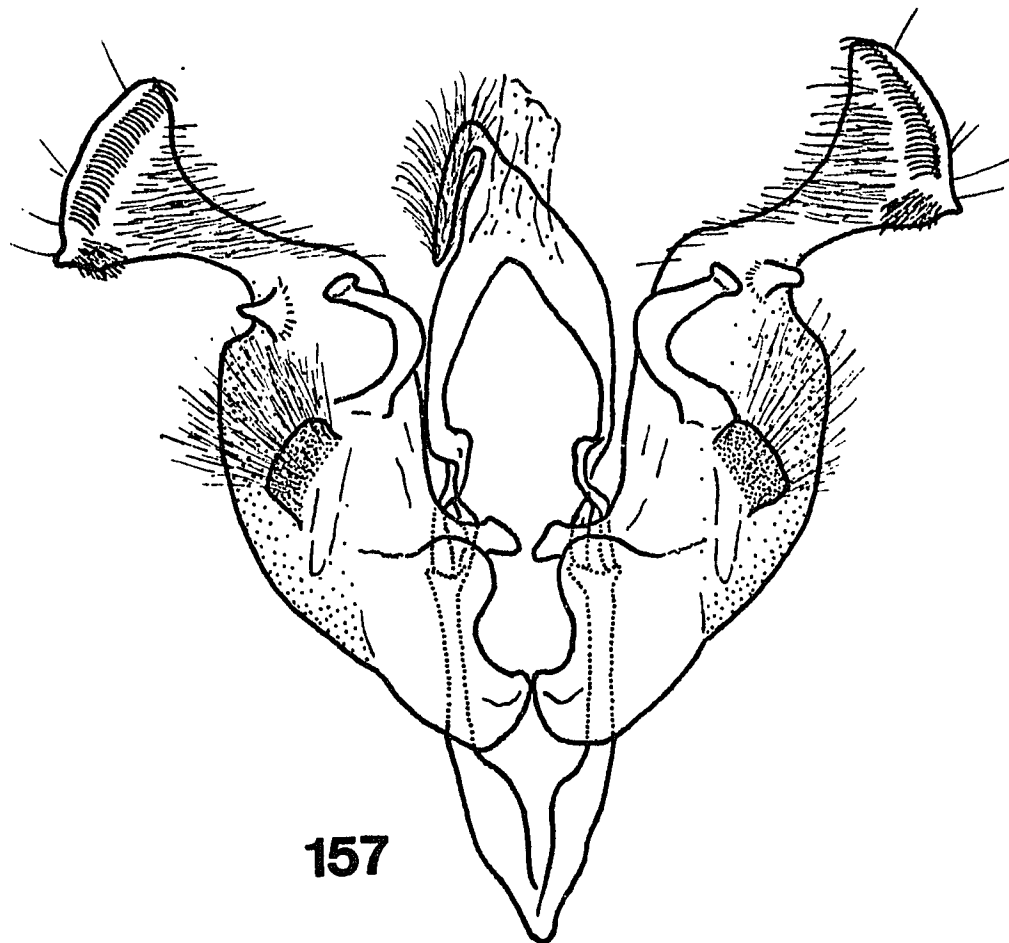
155



156

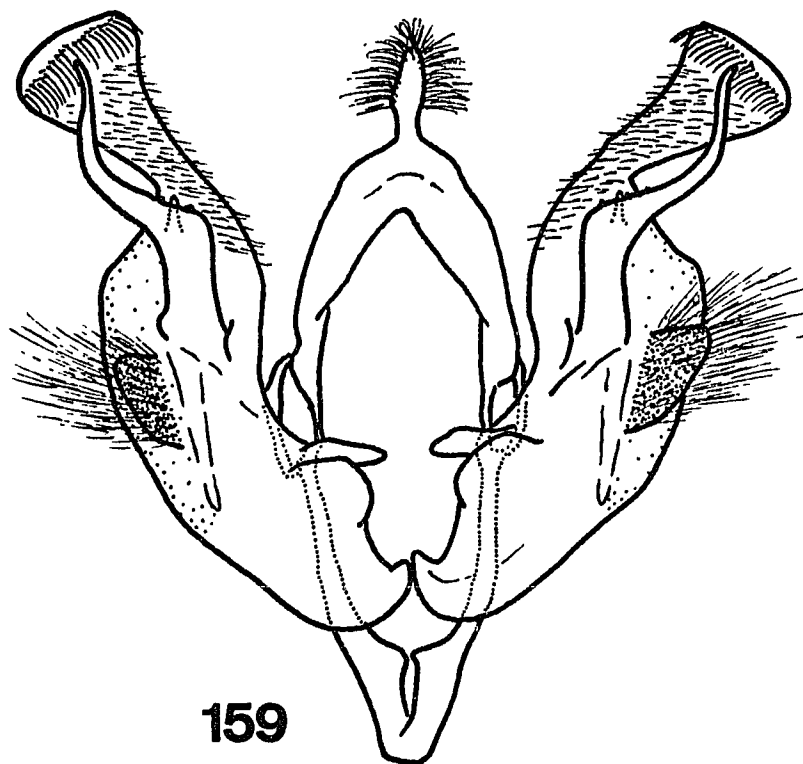
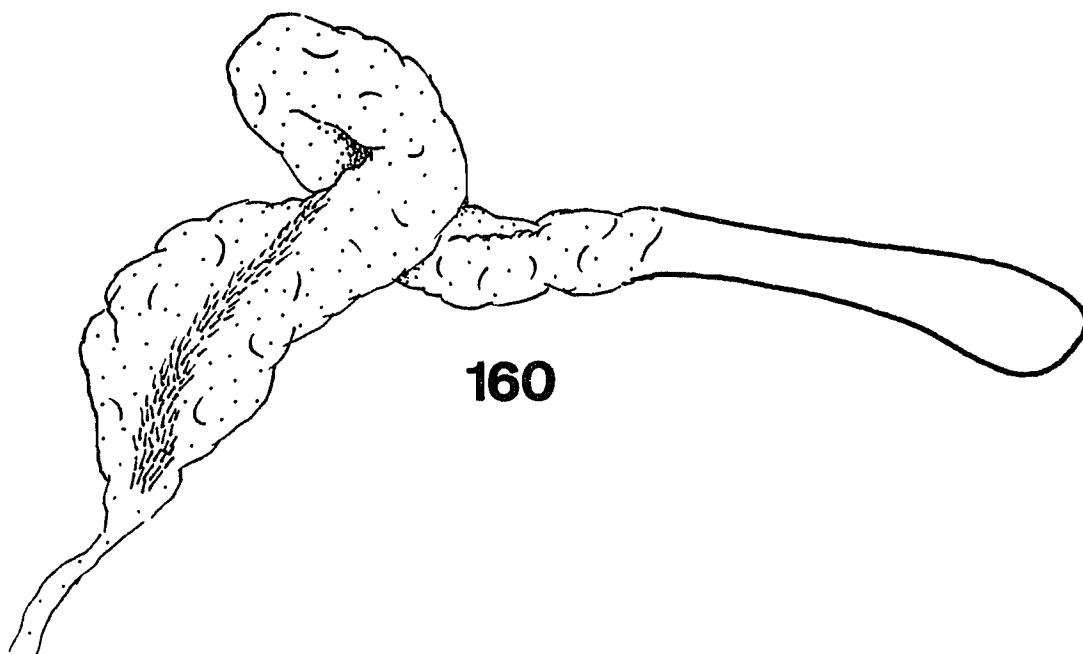
EXPLANATION OF FIGURES 157-158

157. Lacinipolia rodora (Dyar), male genitalia,
caudal view.
158. Same, aedaeagus (inflated vesica), lateral view.



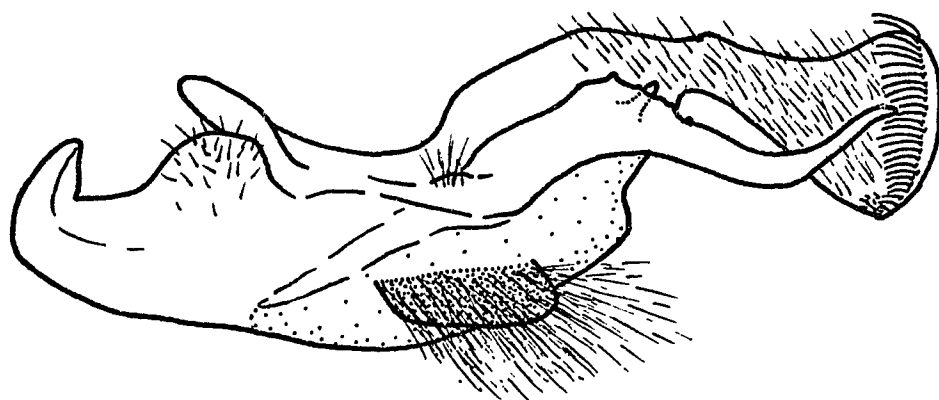
EXPLANATION OF FIGURES 159-160

159. Lacinipolia fordii, n. sp., male genitalia,
caudal view.
160. Same, aedaeagus (inflated vesica), lateral view.

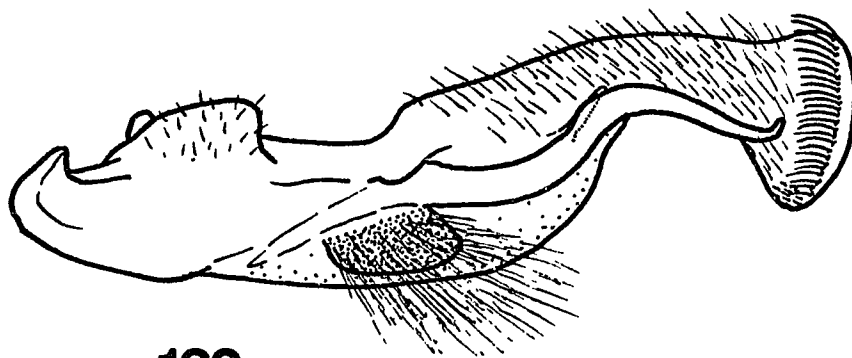
**159****160**

EXPLANATION OF FIGURES 161-162

161. Lacinipolia fordi, n. sp., right valve, lateral view.
162. Lacinipolia franclemonti n. sp., right valve, lateral view.



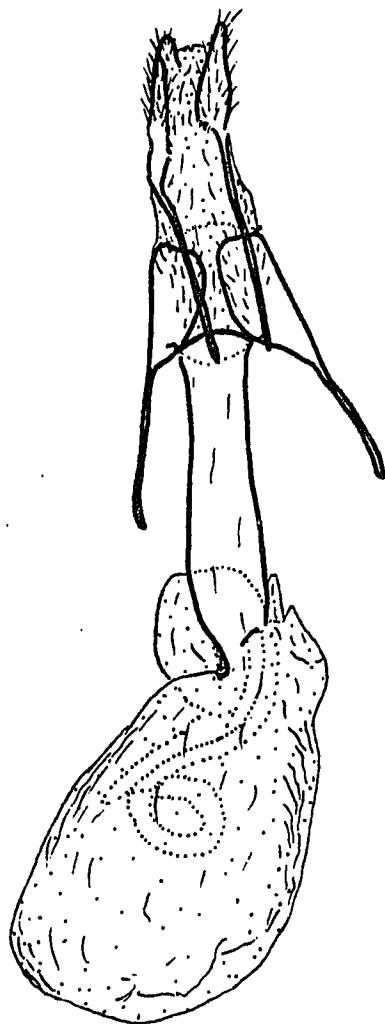
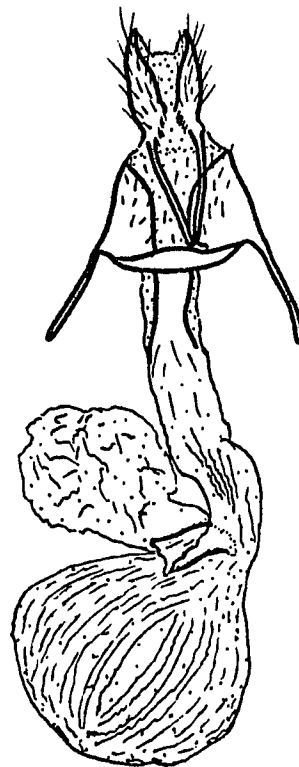
161



162

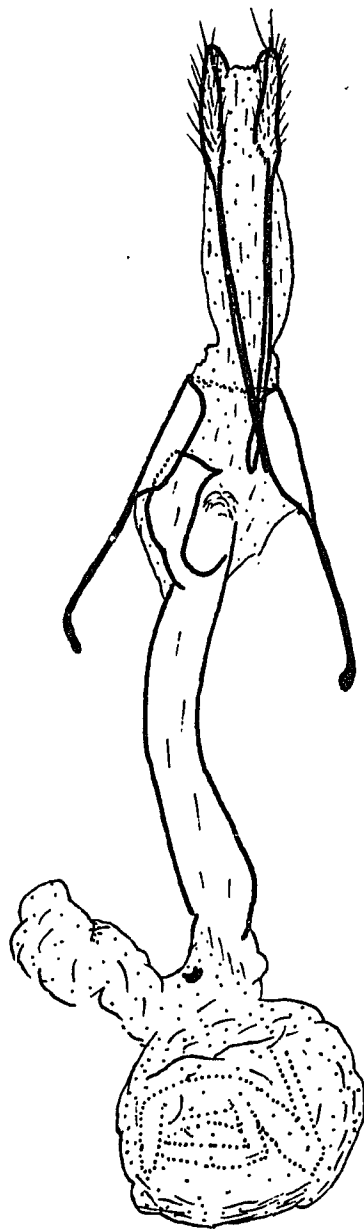
EXPLANATION OF FIGURES 163-164

163. Lacinipolia runica (Hampson), female genitalia,
ventral view.
164. Lacinipolia fordii n. sp., female genitalia,
ventral view.

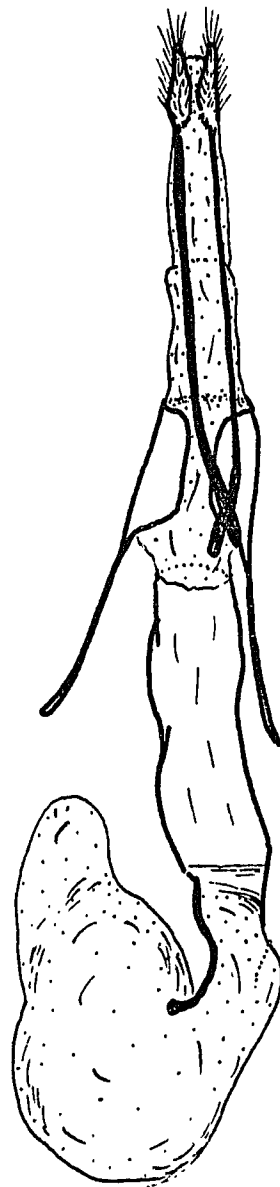
**164****163**

EXPLANATION OF FIGURES 165-166

165. Lacinipolia naevia (Smith), female genitalia,
ventral view.
166. Lacinipolia pensilis (Grote), female genitalia,
ventral view.



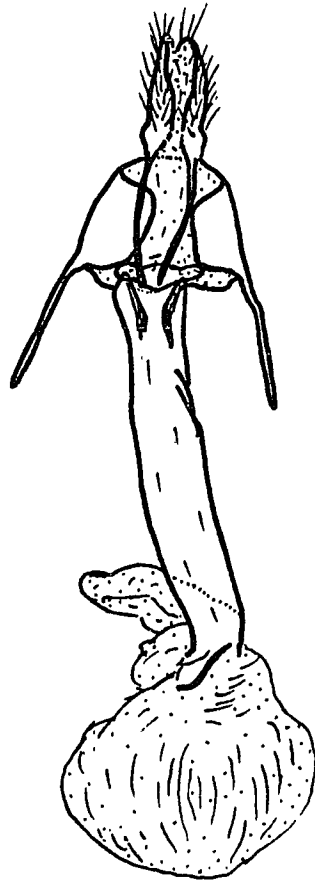
166



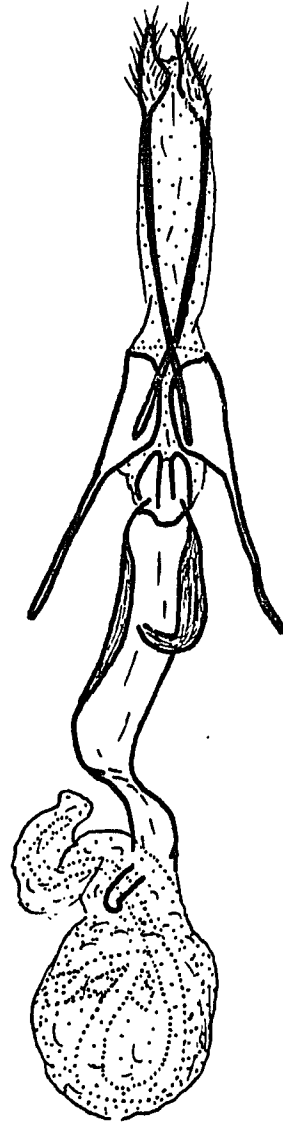
165

EXPLANATION OF FIGURES 167-168

167. Lacinipolia agnata (Smith), female genitalia,
ventral view.
168. Lacinipolia martini n. sp., female genitalia,
ventral view.



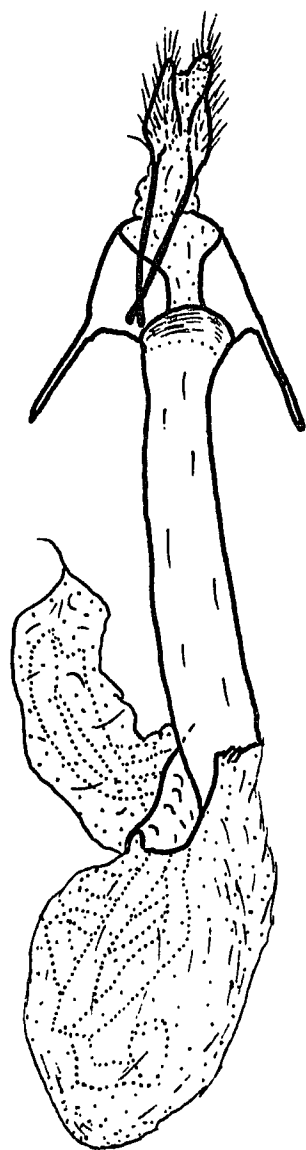
168



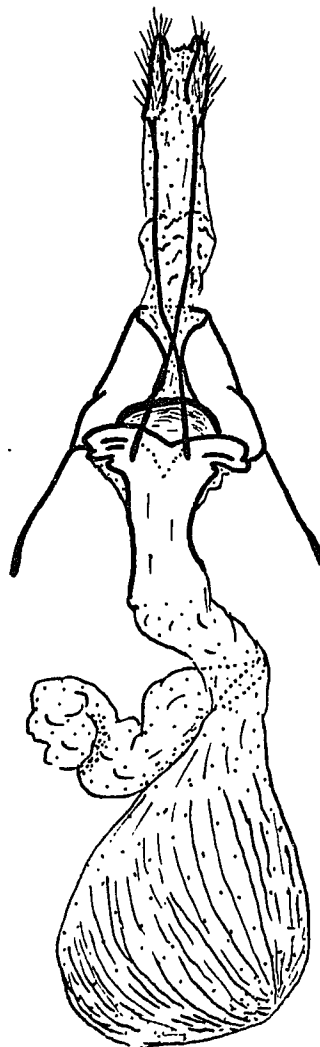
167

EXPLANATION OF FIGURES 169-170

169. Lacinipolia triplehorni n. sp., female genitalia,
ventral view.
170. Lacinipolia umbrosa (Smith), female genitalia,
ventral view.



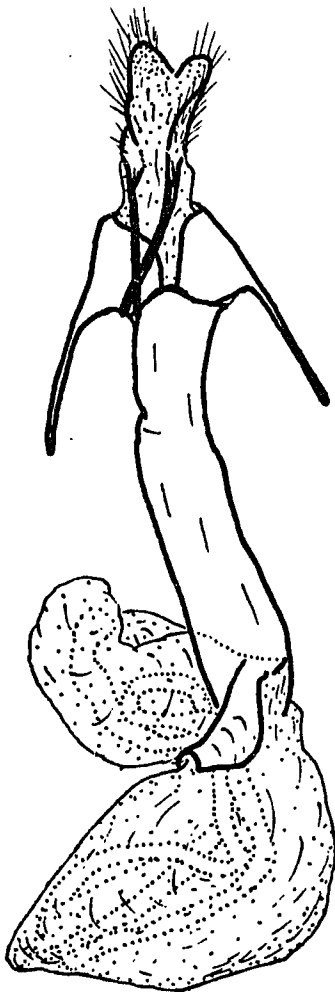
170



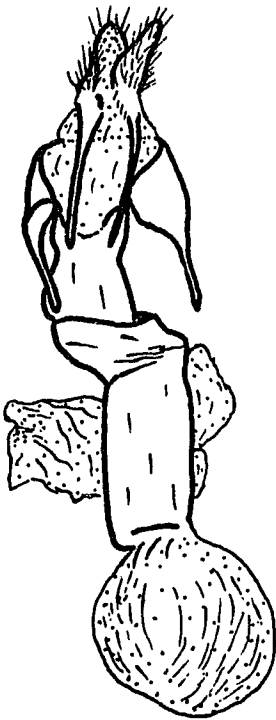
169

EXPLANATION OF FIGURES 171-172

171. Lacinipolia incurva (Smith), female genitalia,
ventral view.
172. Lacinipolia vittula (Grote), female genitalia,
ventral view.



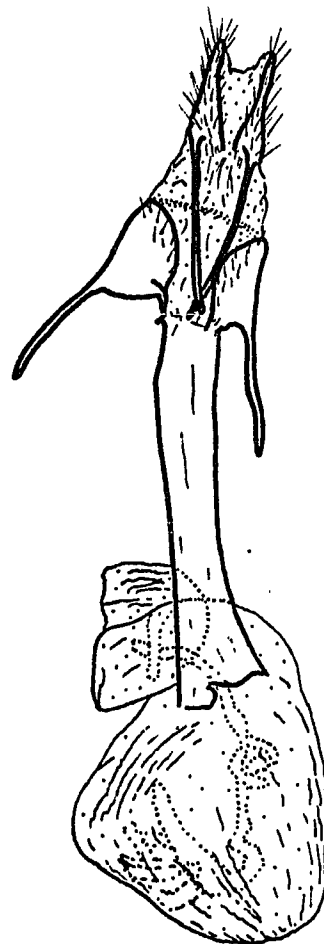
172



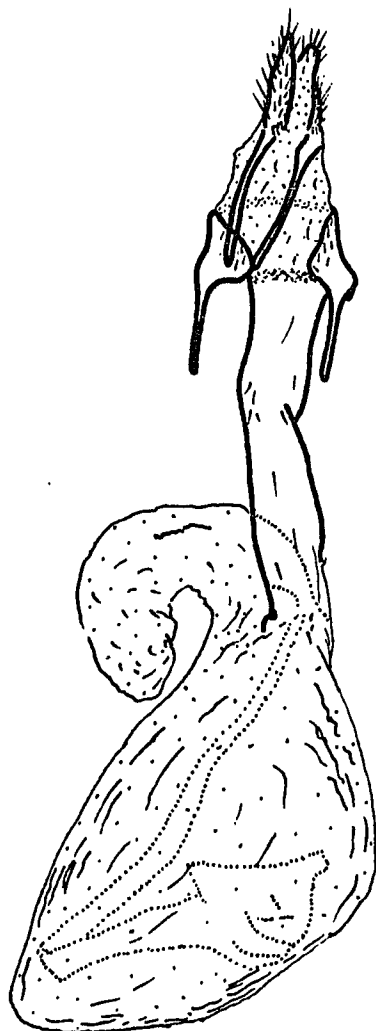
171

EXPLANATION OF FIGURES 173-174

173. Lacinipolia renigera (Stephens), female genitalia,
ventral view.
174. Lacinipolia basiplaga (Smith), female genitalia,
ventral view.



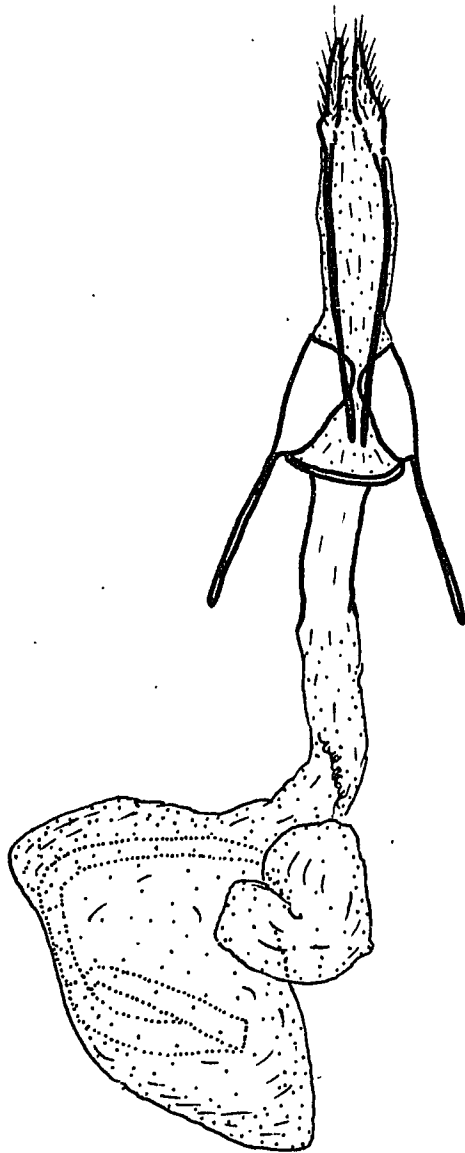
173



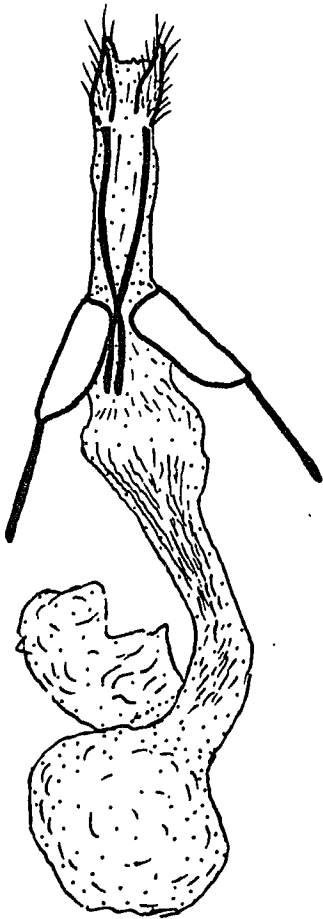
174

EXPLANATION OF FIGURES 175-176

175. Lacinipolia rodora (Dyar), female genitalia,
ventral view.
176. Lacinipolia erecta (Walker), female genitalia,
ventral view.



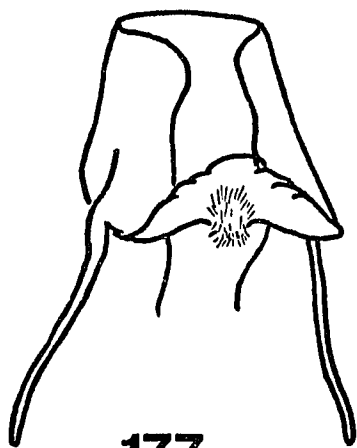
176



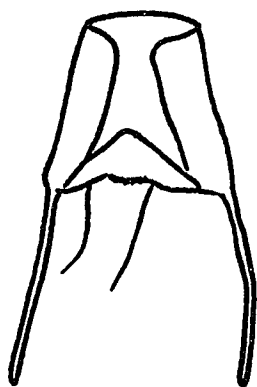
175

EXPLANATION OF FIGURES 177-180

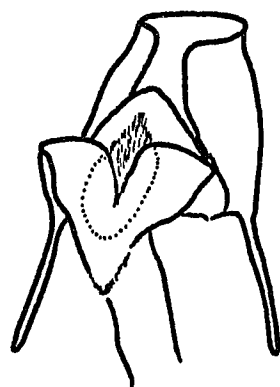
- 177. Lacinipolia acutipennis (Grote), genital plate
and periostium, ventral view, 100X.
- 178. Lacinipolia vicina (Grote), same.
- 179. Lacinipolia teligera (Morrison), same.
- 180. Lacinipolia meditata (Grote), right valve,
lateral view.



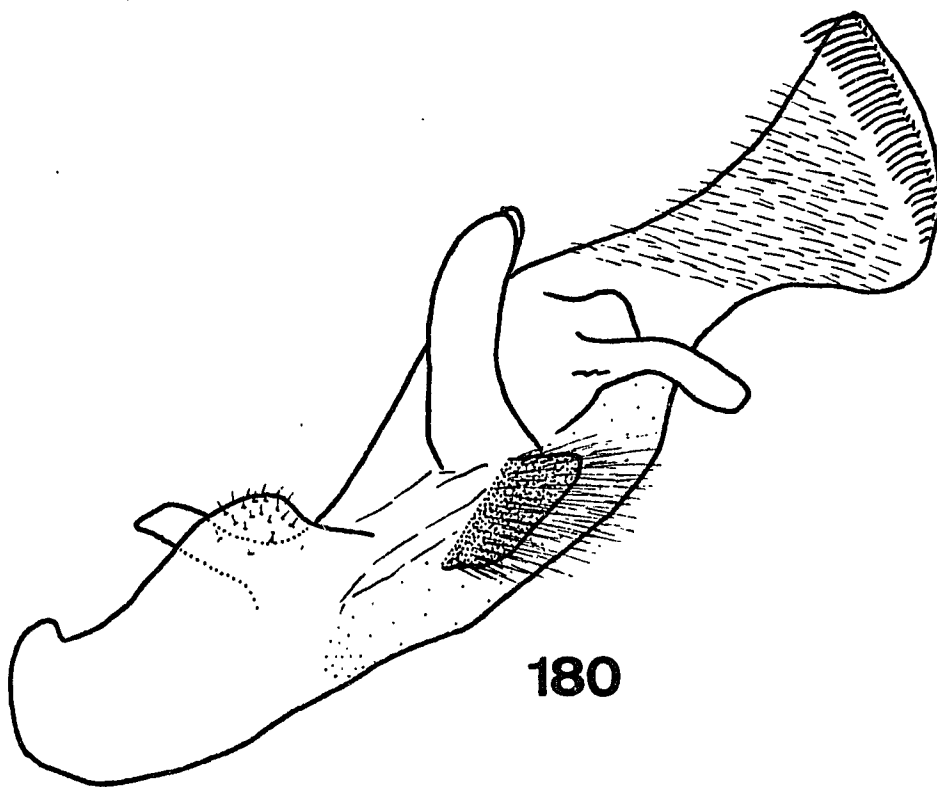
177



178



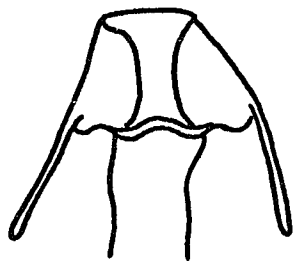
179



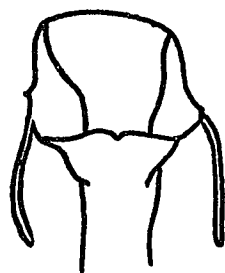
180

EXPLANATION OF FIGURES 181-189

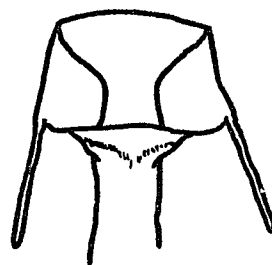
181. Lacinipolia marinitincta (Harvey), genital plate and periostium, ventral view, 100X.
182. Lacinipolia rectilinea (Smith), same.
183. Lacinipolia comis (Grote), same.
184. Lacinipolia umbrosa (Smith), same.
185. Lacinipolia vittula (Grote), same.
186. Lacinipolia leucogramma (Grote), same.
187. Lacinipolia stricta (Walker), same.
188. Lacinipolia uliginosa (Smith), same.
189. Lacinipolia palilis (Harvey), same.



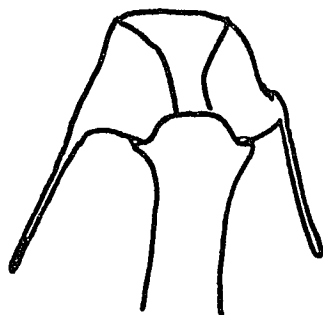
181



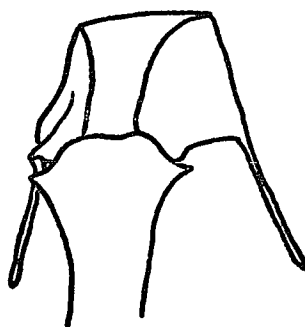
182



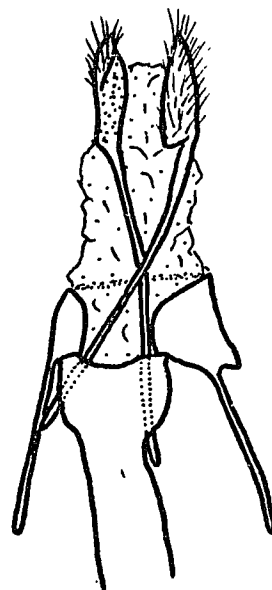
183



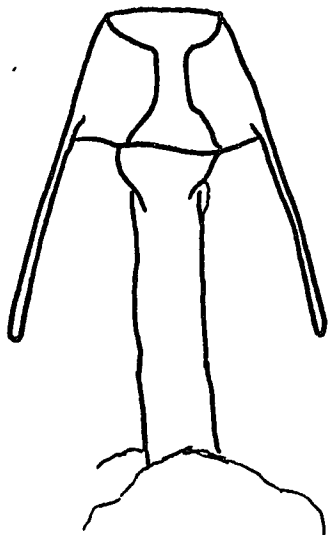
184



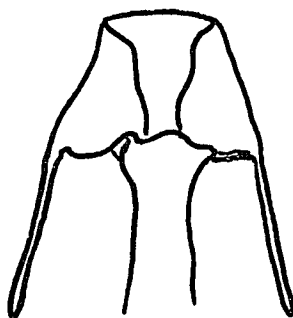
185



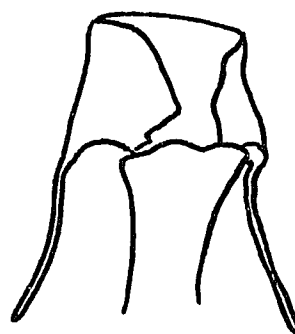
186



187



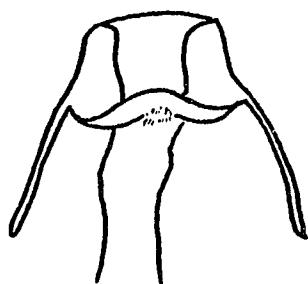
188



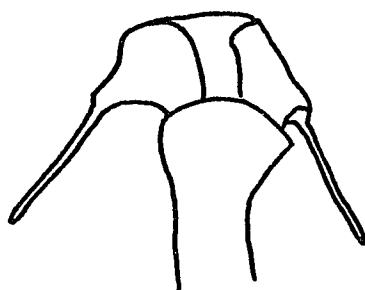
189

EXPLANATION OF FIGURES 190-198

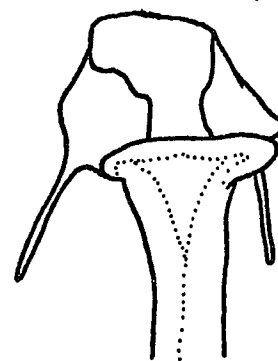
- 190. Lacinipolia runica (Hampson), genital plate and periostium, ventral view, 100X.
- 191. Lacinipolia stenotis (Hampson), same.
- 192. Lacinipolia explicata McDunnough, same.
- 193. Lacinipolia tricornuta McDunnough, same.
- 194. Lacinipolia dilatata (Smith), same.
- 195. Lacinipolia implicata McDunnough, same.
- 196. Lacinipolia martini n. sp., same.
- 197. Lacinipolia quadrilineata (Grote), same.
- 198. Lacinipolia strigicollis (Wallengren), same.



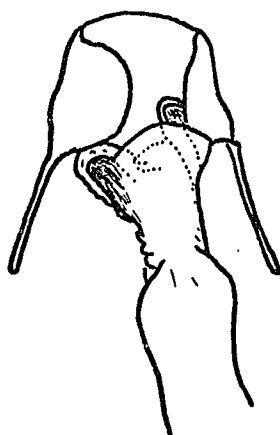
190



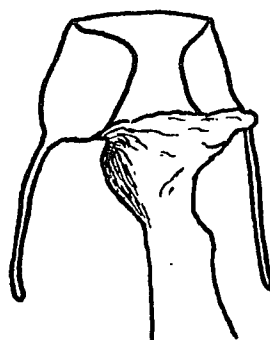
191



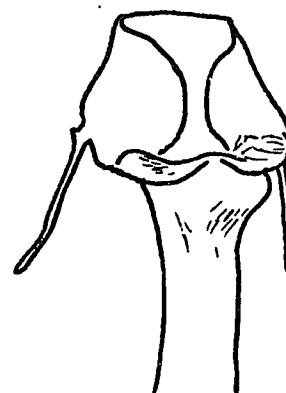
192



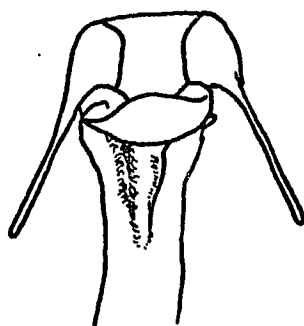
193



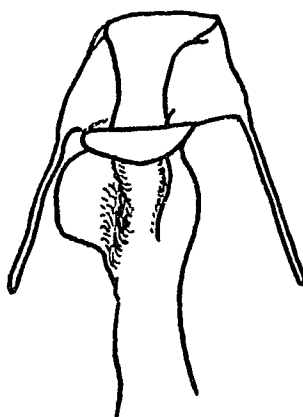
194



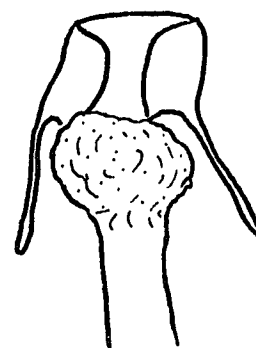
195



196



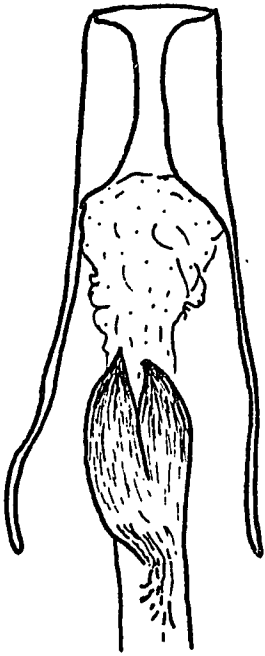
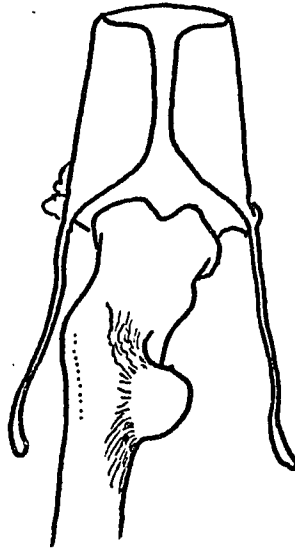
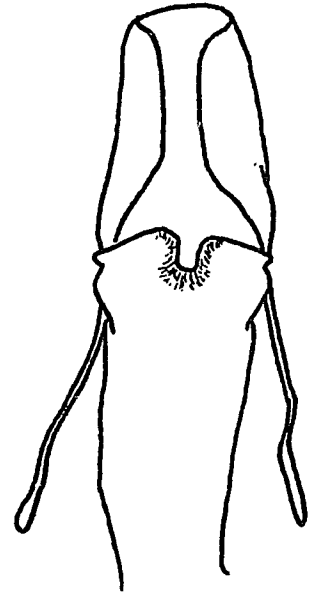
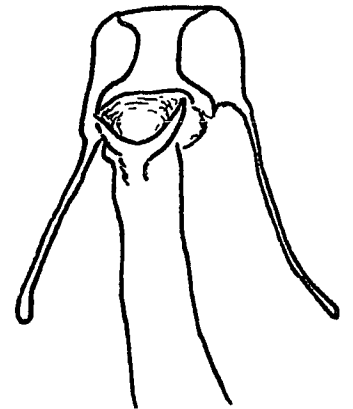
197



198

EXPLANATION OF FIGURES 199-203

- 199. Lacinipolis lustralis (Grote), genital plate
and periostium, ventral view, 100X.
- 200. Lacinipolia agnata (Smith), same.
- 201. Lacinipolia gnata (Grote), same.
- 202. Lacinipolia prognata McDunnough, same.
- 203. Lacinipolia luteimacula (Barnes and Benjamin),
same.

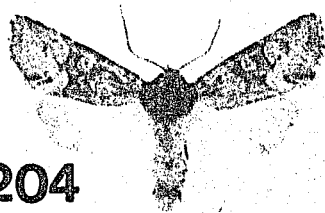
**199****200****201****202****203**

EXPLANATION OF FIGURES 204-227
(All dorsal view, 1.6X)

- 204. Lacinipolia anguina (Grote), male, Wisconsin.
- 205. Same.
- 206. Same, female, Missouri.
- 207. Same, female, Wisconsin.
- 208. Same, male, Newfoundland.
- 209. Lacinipolia incurva (Smith), male, Arizona.
- 210. Same, female, Colorado.
- 211. Lacinipolia longiclava (Smith), male, Colorado.
- 212. Same, female, Colorado.
- 213. Lacinipolia leucogramma (Grote), male, California.
- 214. Same.
- 215. Same, female, Texas.
- 216. Lacinipolia umbrosa, male, Colorado.
- 217. Same, female, Colorado.
- 218. Lacinipolia uliginosa (Smith), male, Texas.
- 219. Same, female, Texas.
- 220. Lacinipolia palilis (Harvey), male, Texas.
- 221. Same, female, Texas.
- 222. Lacinipolia vittula (Grote), male, Colorado.

- 223. Same, female, Arizona.
- 224. Lacinipolia stenotis (Hampson), male, Utah.
- 225. Same, female, California.
- 226. Lacinipolia lustralis (Grote), male, Wisconsin.
- 227. Same, female, Wisconsin.

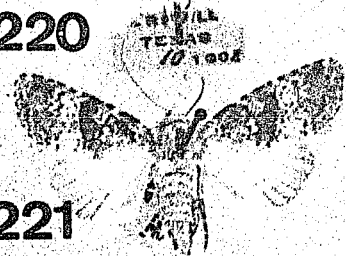
204



212



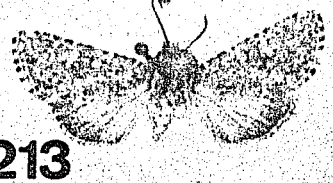
220



205



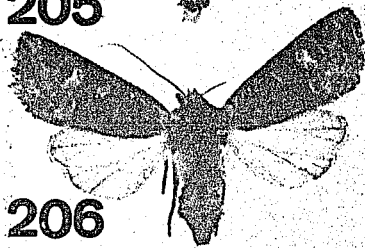
213



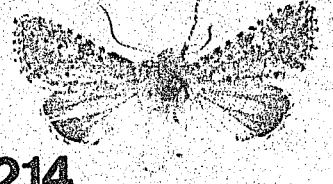
221



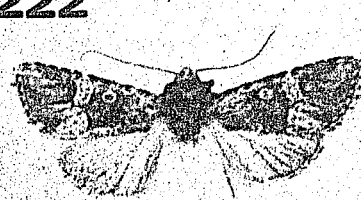
206



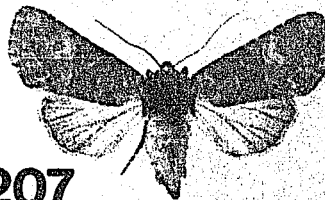
214



222



207



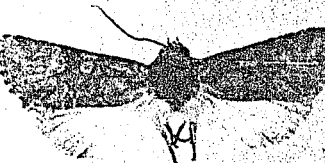
215



223



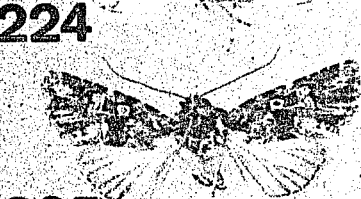
208



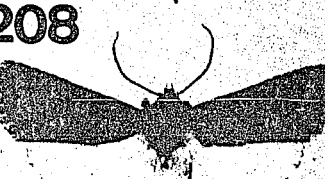
216



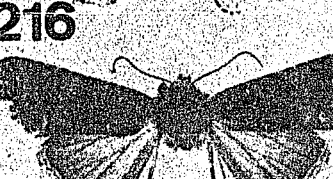
224



209



217



225



210



218



226



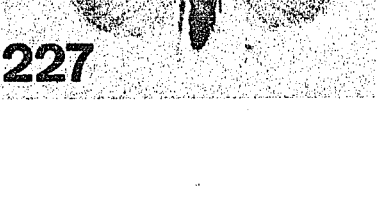
211



219



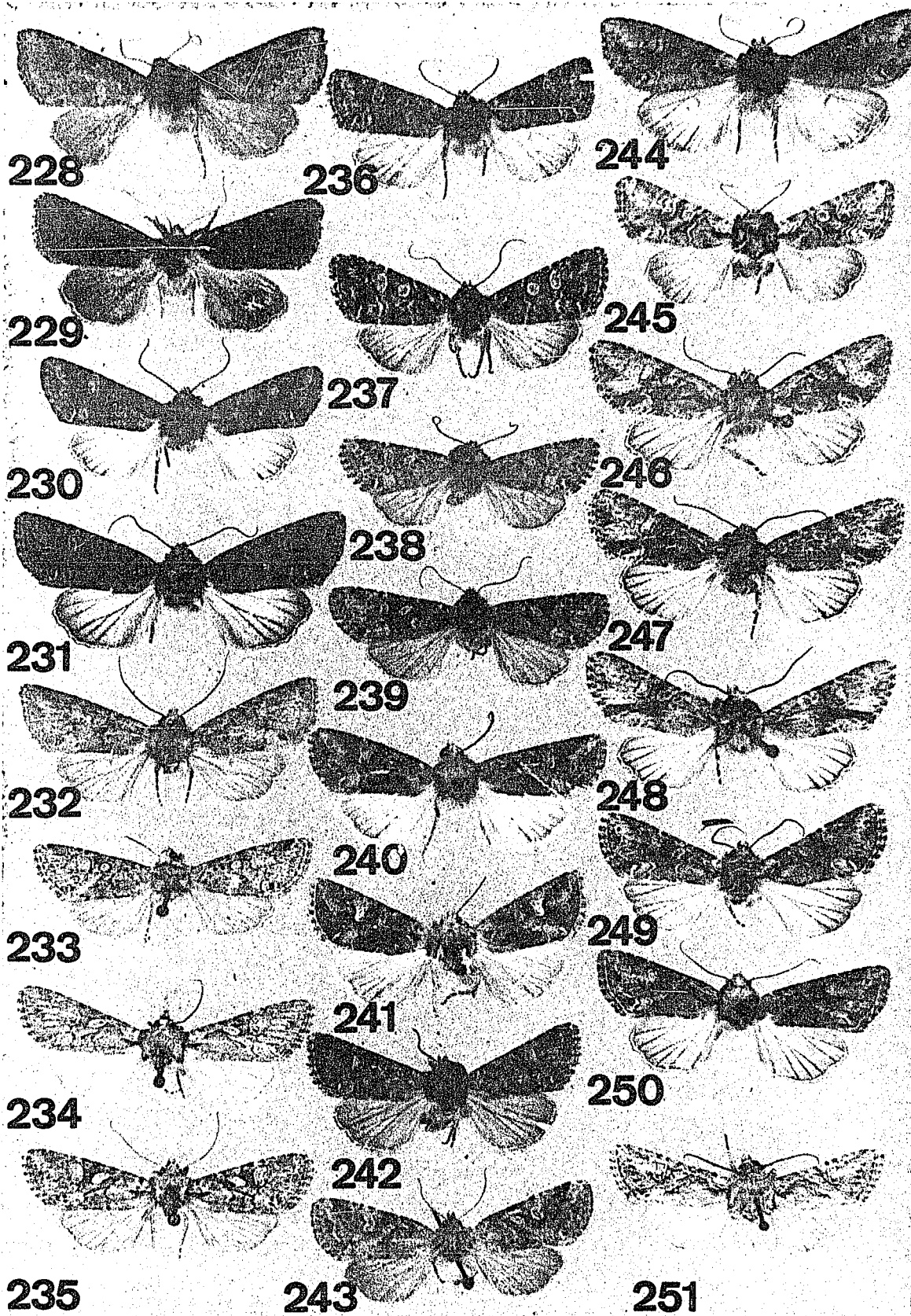
227



EXPLANATION OF FIGURES 228-251
(All dorsal view, 1.6X)

- 228. Lacinipolia meditata (Grote), male, Pennsylvania.
- 229. Same, female, Pennsylvania.
- 230. Lacinipolia gnata (Grote), male, Arizona.
- 231. Same, female, Arizona.
- 232. Lacinipolia prognata McDunnough, male, Arizona.
- 233. Same, female, Arizona.
- 234. Lacinipolia delongi n. sp., male, Arizona.
- 235. Same, female, Arizona.
- 236. Lacinipolia agnata (Smith), male, Arizona.
- 237. Same, female, Arizona.
- 238. Lacinipolia naevia (Smith), male, Colorado.
- 239. Same, female, Colorado.
- 240. Lacinipolia lepidula (Smith), male, Arizona.
- 241. Same, female, Arizona.
- 242. Lacinipolia luteimacula (Barnes and Benjamin), male,
Colorado.
- 243. Same, female, Nova Scotia.
- 244. Lacinipolia teligera (Morrison), male, Pennsylvania.
- 245. Same, female, Texas.

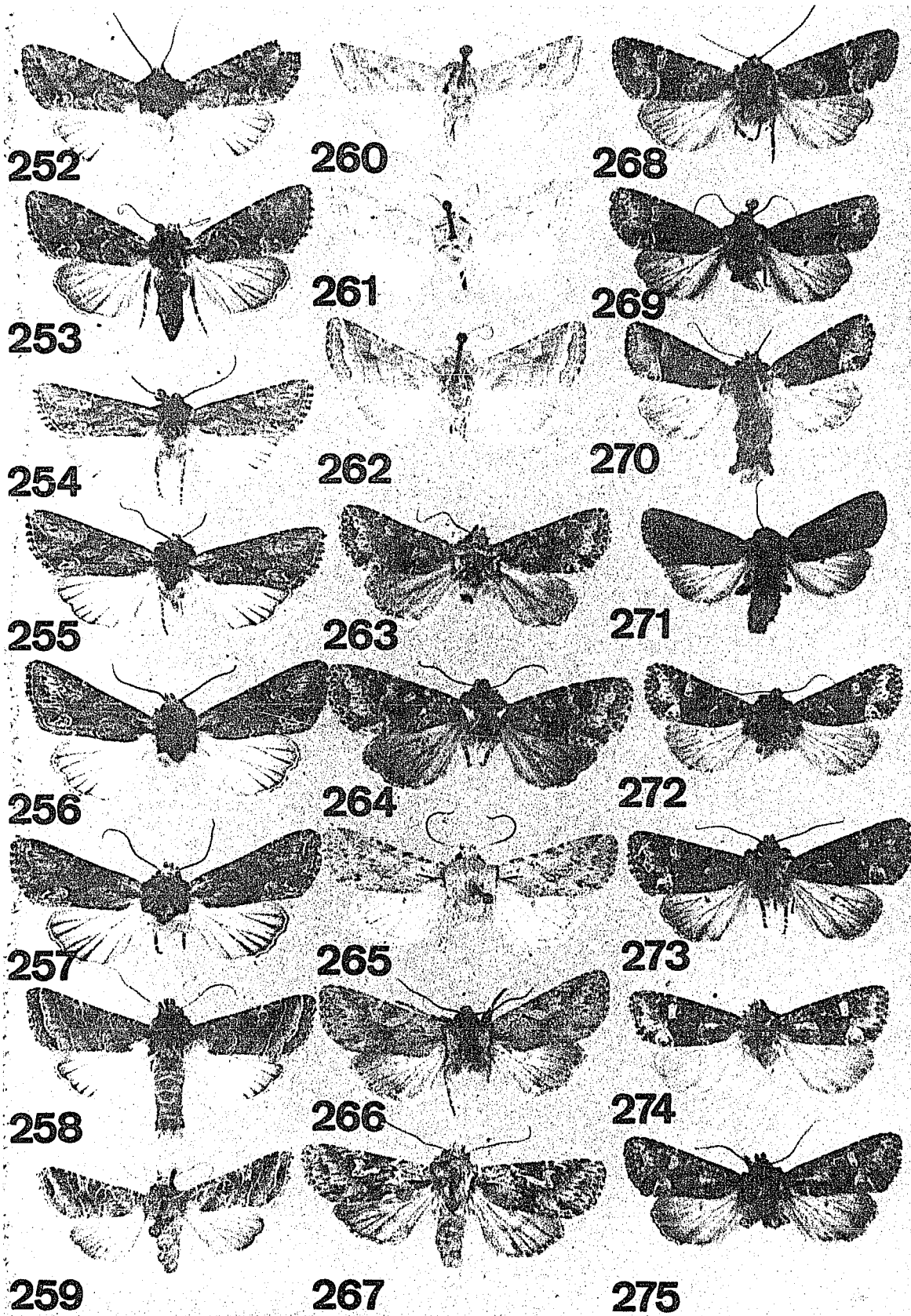
- 246. Lacinipolia aileenae n. sp., male, Arizona.
- 247. Same, female, Arizona.
- 248. Same.
- 249. Lacinipolia pensilis (Grote), male, Idaho.
- 250. Same, female, California.
- 251. Same, male, Utah.



EXPLANATION OF FIGURES 252-275
(All dorsal view, 1.6X)

- 252. Lacinipolia vicina (Grote), male, New York.
- 253. Same, female, Michigan.
- 254. Same, male, Arizona.
- 255. Same, female, Arizona.
- 256. Lacinipolia acutipennis (Grote), male, California.
- 257. Same, female, California.
- 258. Lacinipolia erecta (Walker), male, Texas.
- 259. Same, female, Texas.
- 260. Same.
- 261. Lacinipolia triplehorni n. sp., male, Arizona.
- 262. Same, female, Arizona.
- 263. Lacinipolia cuneata (Grote), male, Washington.
- 264. Same, female, Washington.
- 265. Lacinipolia patalis (Grote), male, California.
- 266. Same, female, California.
- 267. Same, female, British Columbia.
- 268. Lacinipolia sharonae n. sp., male, Arizona.
- 269. Same, female, Arizona.
- 270. Lacinipolia rectilinea (Smith), male, Washington.
- 271. Same, female, Washington.

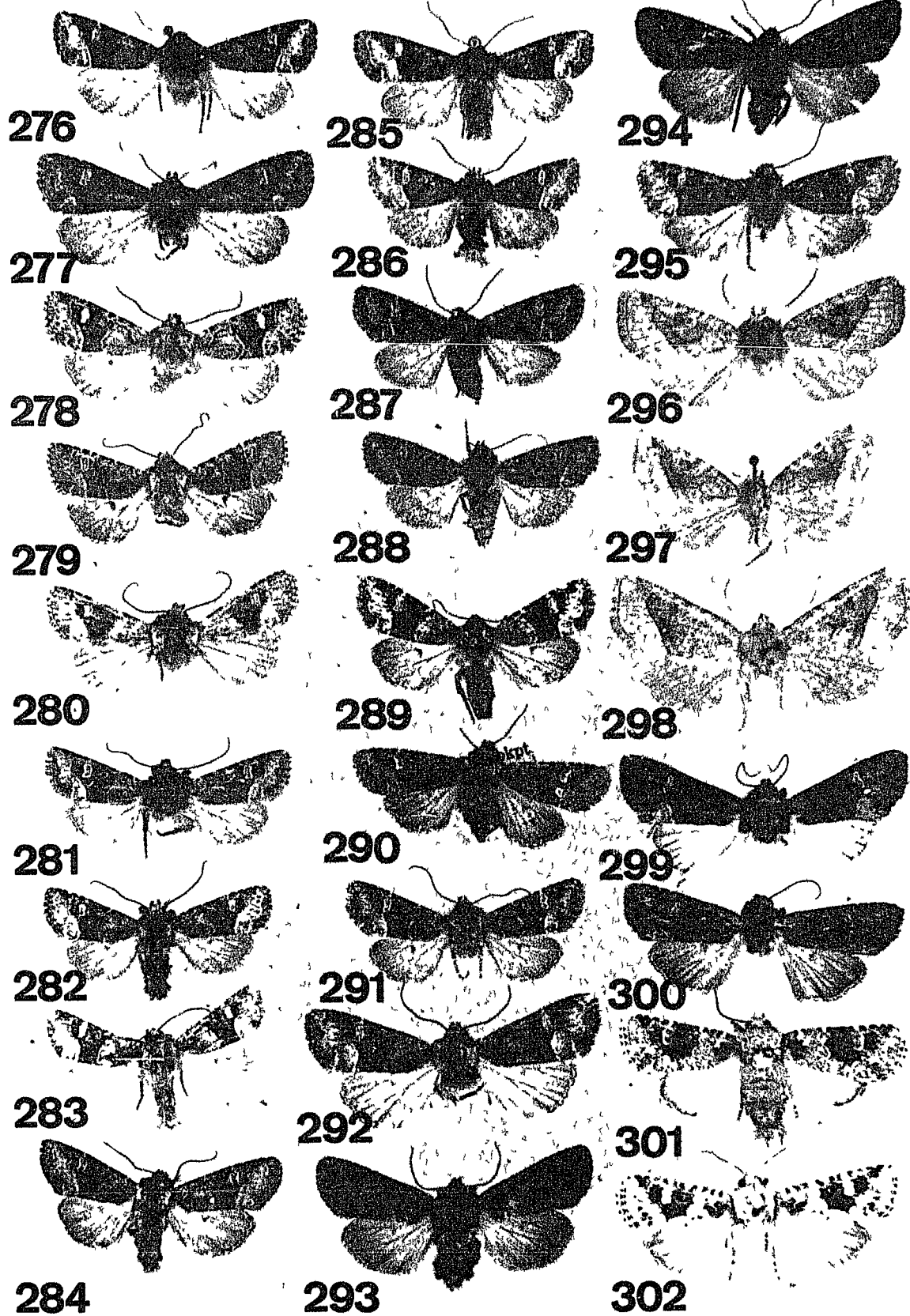
- 272. Lacinipolia comis (Grote), male, Washington.
- 273. Same, male, California.
- 274. Same, male, Idaho.
- 275. Same, male, Washington.



EXPLANATION OF FIGURES 276-302
(All dorsal view, 1.6X)

- 276. Lacinipolia comis (Grote), female, California.
- 277. Same.
- 278. Lacinipolia bucketti n. sp., male, California.
- 279. Same, female, California.
- 280. Lacinipolia baueri n. sp., male, California.
- 281. Same, female, California.
- 282. Lacinipolia olivacea (Morrison), male, Wisconsin.
- 283. Same, male, Oregon.
- 284. Same, male, Wisconsin.
- 285. Same, male, Colorado.
- 286. Same, male, New Hampshire.
- 287. Same, female, New Mexico.
- 288. Same, female, Wisconsin.
- 289. Same, female, Oregon.
- 290. Same, female, Maine.
- 291. Same, female, Colorado.
- 292. Lacinipolia davena (Smith), male, California.
- 293. Same, male, Oregon.
- 294. Same, female, Oregon.

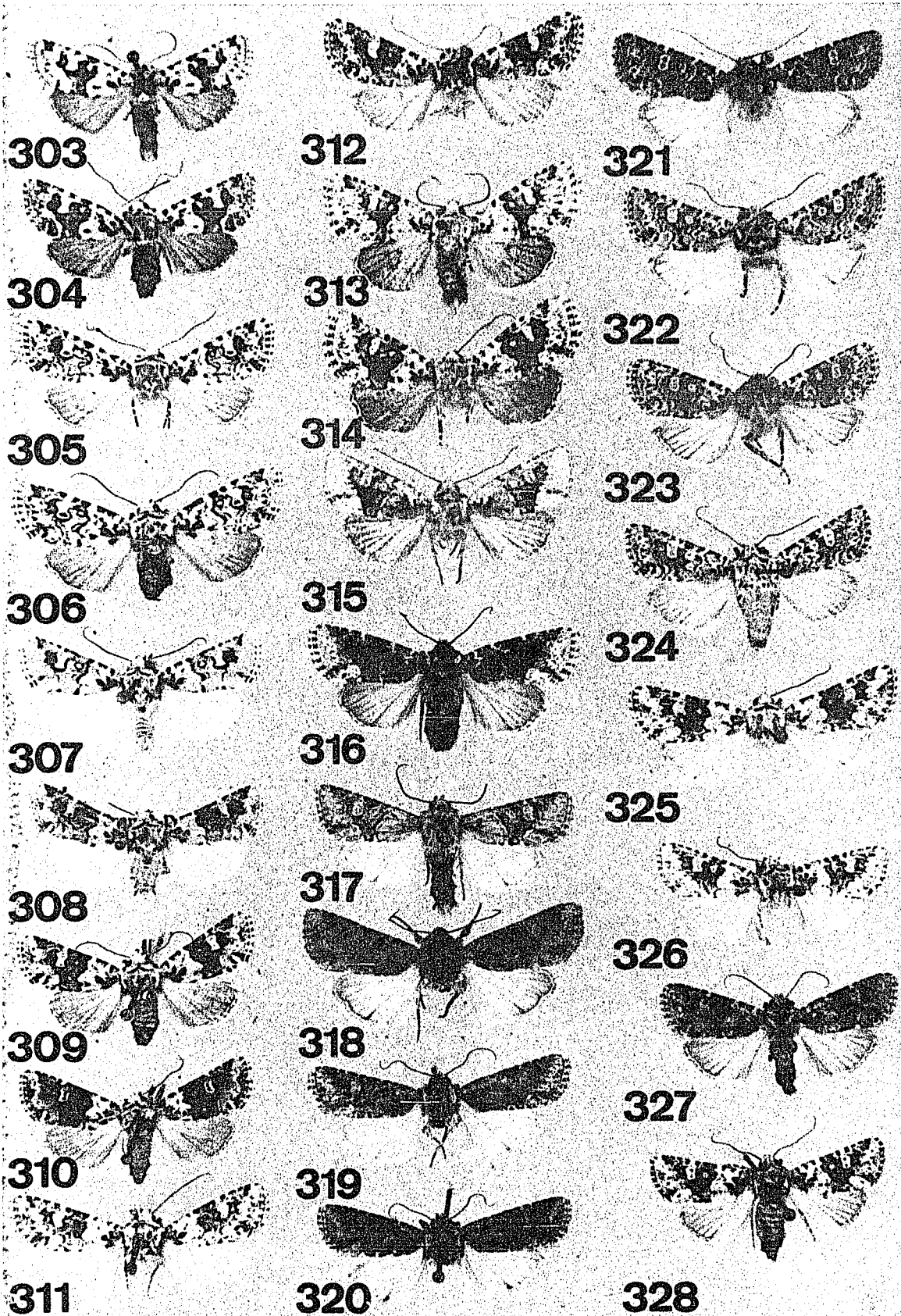
- 295. Same, female, Idaho.
- 296. Lacinipolia lorea (Guenee), male, Idaho.
- 297. Same, female, Maine.
- 298. Same, female, Pennsylvania.
- 299. Lacinipolia basiplaga (Smith), male, Arizona.
- 300. Same, female, Arizona.
- 301. Lacinipolia laudabilis (Guenee), male, Texas.
- 302. Same, female, Texas.



EXPLANATION OF FIGURES 303-328
(All dorsal view, 1.6X)

- 303. Lacinipolia consimilis McDunnough, male, Arizona.
- 304. Same, female, Arizona.
- 305. Lacinipolia runica (Hampson), male, Arizona.
- 306. Same, female, Arizona.
- 307. Lacinipolia viridifera McDunnough, male, Arizona.
- 308. Same, male, Arizona.
- 309. Same, female, Arizona.
- 310. Same, female, Arizona.
- 311. Lacinipolia tricornuta McDunnough, male, Arizona.
- 312. Same, female, Texas.
- 313. Lacinipolia implicata McDunnough, male, Michigan.
- 314. Same, female, New Jersey.
- 315. Lacinipolia explicata McDunnough, male, Arkansas.
- 316. Same, female, Texas.
- 317. Lacinipolia quadrilineata (Grote), male, California.
- 318. Same, female, California.
- 319. Lacinipolia martini n. sp., male, Arizona.
- 320. Same, female, Arizona.
- 321. Lacinipolia dilatata (Smith), male, Texas.

- 322. Same.
- 323. Same, female, Texas.
- 324. Same.
- 325. Lacinipolia strigicollis (Wallengren), male
Arizona.
- 326. Same, male, California.
- 327. Same, female, California.
- 328. Same.



EXPLANATION OF FIGURES 329-354
(All dorsal view, 1.6X)

- 329. Lacinipolia strigicollis (Wallengren), male, Oregon.
- 330. Same, female, Oregon.
- 331. Same, male, California.
- 332. Same, female, Texas.
- 333. Lacinipolia marinitincta (Harvey), male, Colorado.
- 334. Same, female, Texas.
- 335. Lacinipolia strigicollis (Wallengren), male,
California.
- 336. Same, female, California.
- 337. Lacinipolia spiculosa (Grote), male, Arizona.
- 338. Same, female, Arizona.
- 339. Lacinipolia renigera (Stephens), male, Pennsylvania.
- 340. Same, female, Wisconsin.
- 341. Lacinipolia stricta (Walker), male, Oregon.
- 342. Same, female, Vancouver Island.
- 343. Same, male, Oregon.
- 344. Same, female, California.
- 345. Same, male, Utah.
- 346. Same, female, Utah.

- 347. Same, male, California.
- 348. Same, female, California.
- 349. Lacinipolia rodora (Dyar), male, Arizona.
- 350. Same, female, Arizona.
- 351. Lacinipolia fordii n. sp., male, Arizona.
- 352. Same, female, Arizona.
- 353. Lacinipolis franclemonti n. sp., male, Arizona.
- 354. Same, female, Arizona.

