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NEW SPECIES AND SUBSPECIES IN THE GENUS *HYDRIOMENA*, WITH NOTES (LEPIDOPTERA, GEOMETRIDAE)

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In the course of preliminary work in connection with a proposed complete revision of the North American species of the genus *Hydriomena*, several undescribed species and subspecies have been found in the material lent from various sources for study. As considerable time must elapse before the preparation of the complete manuscript can be accomplished, it is thought advisable to describe these forms at the present time so that the names can be available for general use. With these descriptions certain synonymic notes are included to correct errors of identification for which the author has been largely responsible.

Hydriomena sperryi, new species

Figures 4, 20

Palpi thin, moderate in length but projecting well beyond head, deep smoky brown, paling on the third segment. Head and thorax whitish, heavily sprinkled with black scaling, especially on the anterior portion of the front and on the patagia; tuft on meta-thorax small, blackish. Male antennae very thin, scarcely thicker than those of the female. Primaries dull grayish in ground color, with maculation much as in *barnesata*. A small brownish patch at extreme base. A strong, oblique, blackish brown line borders the pale basal area outwardly; beyond this is a broad, deep brown, oblique band, paler inwardly, its outer margin some-

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what irregular and incurved below cell. The balance of the wing is largely pale grayish, flecked with brown, and with a small, brown, costal patch at about two-thirds, continued across wing to tornus by a series of small brown spots; beyond this, about halfway to apex of wing, is a narrow, brown, irregular band, ending opposite cell; a minute brown spot just before apex. Fringes checkered, gray and brown. Secondaries light smoky, with checkered fringes and with traces of a brown, curved, post-median line. Beneath light smoky, the costo-apical brown spots of upper side of primaries reproduced as short bands, relieved by light fawn color. Expanse, from tip to tip of wings, 22 mm.

MALE GENITALIA: Very similar in general appearance to those of *barnesata* and *speciosata*. Uncus single, thin, with slightly pointed apex. Chitinous costal margin of clasper extended well beyond membranous area as a thin pointed spine. The basal subcostal tubercle, designated as tubercle I, gives rise to a strong, very twisted, chitinous ribbon, pointed apically. From the much larger tubercle II, distad to tubercle I, a still stronger and longer chitinous ribbon arises on its dorsal side, being bent strongly cephalad in its initial portion, then recurved and somewhat thickened shortly before apex; the short apical portion is much thinner than the remainder. The transtilla projections are very weakly chitinized, finger-like, and with scattered setae in their apical portions. Aedeagus thin, with narrowed proximal portion, and curving slightly ventrad towards apex. There appears to be a small patch of extremely short, fine spines in the vesica.

FEMALE GENITALIA (FIG. 20): Differ quite extraordinarily from those of *barnesata* and *speciosata* and appear quite unique. The posterior abdominal segments are much drawn out so that the posterior apophyses appear very long. The ostium is broad, membranous, with a very weak chitinous thickening towards its base; it merges gradually into a narrower membranous ductus bursae which is terminated by a chitinous half collar. Following this collar is a short, chunky, chitinized area, very twisted, and best understood from the figure given; this represents the neck found in more normal *Hydriomena* genitalia. On its right side is a bulge, and opposite this on the left side is the opening of the ductus seminalis which arises dorsolaterally and is fairly broad and chitinized at its base, soon narrowing to the usual membranous tube. The distal end of this chitinized area on the left side is strongly rounded and sends a spur towards the right side, par-

tially enclosing what seems to be the entrance into the bursa sac. This sac is entirely membranous, globular, and attached to the ends of the chitinized area.

HOLOTYPE: Female, Miami, Arizona, March 25, 1947 (L. H. Bridwell), in the American Museum of Natural History.

ALLOTYPE: Male, same data, and in same collection.

PARATYPE: Male, same data, and in collection Sperry.

REMARKS: The type series was received from J. L. Sperry, after whom the species is named in consideration of many favors received. The small size of the species is very distinctive.

***Hydriomena septemberata*, new species**

Figures 7, 8, 16, 16A, 21

Palpi short, blackish, second joint upturned, third joint porrect; second joint slightly tufted with black and white scales dorsally. Head and collar whitish, with considerable scattering of black scales. Thorax whitish, with similar black scaling, especially noticeable on the patagia; tuft of metathorax large, black. Male antennae rather thin, only slightly thicker than those of female. Primaries light grayish, with a faint olivaceous tinge, this color being most evident in the basal and postmedian areas and, to a lesser extent, terminally. The basal area is bounded outwardly by a strong, evenly oblique, black line (in some specimens a tendency to angle inward at costa is evident). The antemedian area is crossed by the usual broad, purplish brown, irregular band II, bordered on both sides by lighter areas (at times these may be considerably suffused with darker scaling); this area is defined outwardly by a thin, somewhat irregular, black line, bent slightly outward at costa, then almost upright, with a strong outward angle below anal vein where it is preceded by a slightly darker shading. The strikingly pale, postmedian area is variably sprinkled with darker scaling and bordered outwardly by a very irregular black line (line IV); this is outwardly oblique from costa to vein 6, then angled inwardly and with the usual bulge crossing vein 4 from which point it bends obliquely inward with two slight crenulations as far as the anal vein, the pale area at this point being much narrowed; from this point to the inner margin it again curves outward, paralleling line III. The subterminal area is pale outwardly, with considerable darker shading adjacent to line IV. Band V, which forms the outer

border of the subterminal area, is quite broad, especially at costa, distinctly crenulate on its outer edge, slightly so on inner margin, its color being the same as that of band II. The terminal area is pale, variably shaded with brown. There is a slight, inwardly oblique, black streak at apex; the usual two transverse, black streaks are present, one crossing the interspace between veins 6 and 7 distad of band V, the other in the subterminal area along vein 6, touching the outward angle of line IV; neither is very prominent. The veins are slightly scaled with black and terminate in small black spots along the outer margin. The palish fringes are slightly checkered with black. Secondaries smoky, with traces of a curved postmedian line and much paler, checkered fringes. Beneath pale smoky white, with deeper smoky shading along terminal area of primaries. A narrow, postmedian, sinuate, smoky band crosses primaries, while the secondaries show a distinct, thin, curved, postmedian line and slight smoky shading at anal angle. Expanse, 30-33 mm.

MALE GENITALIA (FIGS. 12, 16, 16A): Uncus fairly deeply bifurcate, the excavation being U-shaped; neck quite broad. Tegumen longer and narrower than usual. Transtilla projections short and chunky, with numerous apical setae, this being a quite characteristic feature. Clasper fairly normal, but the two subcostal tubercles near base are much reduced in size: the proximal one (tubercle I) gives rise to a thin, curved, chitinous ribbon; the distal one (tubercle II), besides the usual large number of knobbed hairs, shows, on the side adjacent to tubercle I, three fine, chitinous ribbons, about half the thickness of the one from tubercle I, the normal number in this area being a single ribbon. The juxta plate is also very characteristic; the sides show strong incurves in the central area; there is a deep apical excavation, the sides of which are strongly chitinized, and the whole plate is strongly hirsute with much longer hairs than usual. The adeagus is somewhat curved ventrad towards apex, and the vesica shows a loose bundle of fine, rather obscure cornuti.

FEMALE GENITALIA (FIG. 21): Quite distinct from the general type. The sides of the funnel-shaped ostium are thickened in the distal half with lateral chitinous rods, presumably representing the collar, found normally. The ductus bursae is narrow and membranous, gradually broadening distally; it leads into a short, broad, chitinous area which corresponds to the neck present in normal organs. This chitinous neck is traversed inwardly by

two strong septa and shows in its proximal area a dorsolateral rounded prominence on the right side, somewhat reminiscent of the digitabulum of other species; from this, on the ventral side, the fine membranous ductus seminalis arises. The bursa proper is an oval membranous sac, attached to the distal end of the chitinized section.

HOLOTYPE: Female, Julian, San Diego County, California, September, 1948 (Noel Crickmer), in the American Museum of Natural History.

ALLOTYPE: Male, same data, and in same collection.

PARATYPES: Six males, six females, same data as holotype; one male, Laguna Mountains, Julian, California, September 26, 1945; three males, upper Santa Ana River, San Bernardino County, California, September 12, 1948, September 14 and 26, 1949 (J. L. Sperry); one male, Barton Flats, California, September 3, 1945 (J. L. Sperry). These paratypes will eventually be deposited in the American Museum of Natural History, United States National Museum, Canadian National Collection, and Sperry collection.

REMARKS: A number of the paratypes are scarcely more than half of the size of the holotype and allotype but show similar genitalia. It evidently is one of those cases where great variation in size occurs, similar to that found in *edenata* Swett. A few specimens show considerably more smoky suffusion on the primaries than in the holotype, obscuring to a great extent the pale postmedian band. In a slide of the male genitalia of one of the paratypes from Santa Ana River, the neck is somewhat narrower and the excavation between the forks of the uncus is not quite so deep as in the allotype. As, however, other more salient features agree and the maculation of primaries is similar, the discrepancy is attributed to individual variation which is known to occur in many other species in this same section.

***Hydriomena perfracta marmorata* Barnes and McDunnough,
new status**

Hydriomena marmorata BARNES AND McDUNNOUGH, 1917, Contributions to the natural history of the Lepidoptera of North America, vol. 4, no. 1, p. 22, pl. 4, fig. 3 (female, not male, as stated), pl. 8, fig. 7 (male genitalia).

Marmorata, described as a good species, must be considered on the strength of similarity of genitalic characters as a Californian race of the eastern *perfracta*. At the time of the revision

perfracta was little known and was considered a rare species; the name was based on material from the Catskill Mountains, New York (Pearsall), and apart from the type male in the Museum of Comparative Zoölogy, Harvard College, a topotypical specimen in the collection of the American Museum of Natural History, and a third male from the vicinity of Calgary, Alberta (Dod), no other material was at that time available for study; the type was figured (*op. cit.*, pl. 6, fig. 13) as well as the Calgary specimen (pl. 4, fig. 1). A comparison of these figures of adults with the figure of the female type of *marmorata*, stated through a typographical error to be a male, will show the differences quite clearly. In general it may be said that *marmorata* is more heavily marked than *perfracta*, especially in the postmedian area where the reddish suffusion is reduced. The size is also somewhat larger. Characteristic for both is an incurve of line III on the anal vein. The locality given by Henry Edwards for *marmorata*, "Sier. Nev. Cal.," is vague, but may possibly refer to the region around Lake Tahoe where it is known that Edwards did a good deal of collecting. The female specimen figured, as mentioned, is hereby designated as the lectoholotype.

Since the revision of 1917 *perfracta* has been found to occur not uncommonly in the region of Halifax, Nova Scotia, and also in the Annapolis Valley and Cape Breton Island. Its distribution is known to extend across Canada as far as the foothills of the Albertan Rockies, and the Dod collection, now incorporated in the Canadian National Collection, contained a fair series of specimens from this latter region. Bowman, in his 1951 "List of the Lepidoptera of Alberta" (Canadian Jour. Zool., vol. 29, pp. 121-165), mentions several other regions where it occurs in this province.

As regards genitalic characters, there is nothing in these organs in both sexes that could constitute specific differentiation. The figure of the male genitalia of *marmorata* (*op. cit.*, pl. 8, fig. 7) shows clearly the same type of bifurcation of the uncus as in *perfracta* and also a similar juxta plate which narrows considerably towards its base, forming a short stalk. A figure of these parts in *perfracta perfracta* from a male taken at Baddeck, Cape Breton Island, is given (this paper, figs. 13, 17). The female genitalia are also similar to those of *perfracta*.

In the southwestern area of the United States *perfracta* seems

to break up into several fairly well-defined races, apart from *marmorata*; these are herewith described.

***Hydriomena perfracta centralis*, new subspecies**

Figures 3, 22

A race of the southern Rocky Mountain region, closely approaching *perfracta marmorata*. The ruddy shades are reduced in extent and paler in coloration, being of a light pink, and the whole maculation appears duller, especially in the females. This is partly due to a considerable sprinkling of smoky scaling over the pale postmedian band. Size similar to that of *perfracta marmorata*, the wing expanse from tip to tip of primaries being approximately 35 mm. A figure of the female genitalia is given (fig. 22).

HOLOTYPE: Female, Tesuque, New Mexico, June 29, 1932, in the American Museum of Natural History.

ALLOTYPE: Male, Turkey Creek Road, White Mountains, Arizona, June 6, 1937 (Andrews and Martin), in the Los Angeles County Museum.

PARATYPE: Female, same data as holotype, for the present in the author's collection, later to be deposited in the American Museum of Natural History.

***Hydriomena perfracta monoensis*, new subspecies**

Figures 1, 2

A very striking race that is apparently confined to the eastern slopes of the Sierras in Mono County and the adjacent areas of Inyo and Fresno counties, California. It is characterized by the much greater extent of the pale areas and the reduction of the smoky shades, in consequence of which the purple-black cross bands II and V stand out very sharply. The ruddy shading is extensive and of a pale salmon color which in worn specimens pales to an almost light sandy; it is most obvious on both sides of the above-mentioned cross bands and less so over the pale postmedian area. The size is quite variable, the smallest male (Mono County) having a wing expanse of 30 mm. and the largest female (Huntington Lake, Fresno County) reaching an expanse of almost 40 mm. Judging by the data on specimens examined, it flies from mid-July to mid-August, much later in time of appearance than the other races. The genitalia show no obvious differences from those of *perfracta perfracta*.

HOLOTYPE: Male, Rock Creek, Mono County, California, elevation 7500 feet, August 19, 1938 (M. L. Walton), in the American Museum of Natural History.

ALLOTYPE: Female, Warren's Creek, near Tioga Pass, Mono County, California, 9000 feet, July 20, 1941 (C. Henne), in the author's collection for the present, to be deposited later in the American Museum of Natural History.

PARATYPES: One female (worn), same data as holotype; one female, Lake Mary, Mono County, California, July 27, 1933 (M. L. Walton); one female, Mono Lake, California, July 12, 1937; one female, Huntington Lake, Fresno County, California, 6950 feet, July 17, 1935 (M. L. Walton); these four specimens in the Los Angeles County Museum. One male, Huntington Lake, Fresno County, California, July 17, 1935 (M. L. Walton), and one female, same locality and collector, July 16, 1935; these specimens remain in the author's collection for the present but will later be deposited in the United States National Museum. Two females, same data as allotype, in collections Rindge and Sperry.

***Hydriomena expurgata franclemonti*, new subspecies**

Hydriomena henshawi BARNES AND McDUNNOUGH (*nec* Swett), 1917, Contributions to the natural history of the Lépidoptera of North America, vol. 4, no. 1, p. 15, pl. 2, fig. 9.

It has already been shown (1945, Canadian Ent., vol. 77, p. 65) that the species figured in the revision as *henshawi* was a misidentification and that the name *expurgata*, described as a race of *henshawi* (1918, *op. cit.*, p. 139, pl. 21, fig. 6, female type, not male as stated), must be employed as the specific name. The type series of *expurgata* was taken in the Monachee Meadows, Tulare County, California, 8000 feet, and the female figured is hereby designated as the lectoholotype. As noted in the original description, *expurgata* is "much more contrastingly and brightly marked" than the false *henshawi*, and it seems well, in order to avoid further misunderstanding, to apply the above racial name to the darker form. Apart from the greater suffusion of smoky scaling in the basal and postmedian areas and the paling of the ruddy shades bordering bands II and V, there is little difference between the two forms; the narrower, pale, postmedian area in the type of the new race is not constant. The male specimen fig-

ured in the revision as *henshawi* (pl. 2, fig. 9) is being made the holotype. The male genitalia, similar in both forms, are characterized by lateral bulges at the base of the uncus neck, a juxta plate broad at base and with the apical projections very small and pointed inward, and with a very faint bundle of scattered cornuti in the vesica; these characters, drawn from a paratype of *expurgata*, are shown in the figures given (figs. 14, 18). The drawing of the less characteristic female genitalia (fig. 23) has been based on the organ in the holotype of the nymotypical form. I take pleasure in dedicating the race to J. G. Franclemont who has been most helpful in supplying material from the United States National Museum.

HOLOTYPE: Male, Deer Park, Placer County, California, June 18, 1908, elevation 6500 feet, in the United States National Museum.

ALLOTYPE: Female, Quaking Aspen, Tulare County, California, June 20, 1936 (L. Martin), at present in the author's collection, later to be deposited in the American Museum of Natural History.

PARATYPES: One male, "Sier. Nev. Cal." (Henry Edwards), in the American Museum of Natural History; one male, one female, Huntington Lake, Fresno County, California, June 22, 1936 (L. Martin), two females, same locality, June 26, 1937 (Walton), in the Los Angeles County Museum; one male, Huntington Lake, Fresno County, California, June 22, 1936 (L. Martin), in author's collection; two females, Huntington Lake, Fresno County, California, June 23, 1936 (L. Martin), in the Canadian National Collection.

REMARKS: It might be well to state that the species in both forms is characterized by the extremely short palpi, which barely extend beyond the front, a feature otherwise found only in the Arizonan *albimontanata* McDunnough, misspelled as *albimonata* in the original description owing to a typographical error. The occurrence of the suffused form at Huntington Lake and Quaking Aspen localities, not far removed from that of the *expurgata* types, is rather surprising and calls for more environmental study. Apart from the original series of *expurgata*, the only specimen seen that matched these types is one in the Los Angeles County Museum from Bishop Creek, Inyo County, California, June 9, 1935.

Hydriomena bistriolata Zeller

Figure 9

Cidaria bistriolata ZELLER, 1872, Verhandl. Zool.-Bot. Gesellsch. Wien, vol. 22, p. 493.

Hydriomena bistriolata, PACKARD, 1876, A monograph of the geometrid moths . . . of the United States, p. 95, pl. 8, fig. 32 (as synonym of *californiata*). BARNES AND McDUNNOUGH, 1917, Contributions to the natural history of the Lepidoptera of North America, vol. 4, no. 1, p. 28, pl. 5, fig. 3. SWETT, 1915, Canadian Ent., vol. 47, p. 58.

Hydriomena pluviata, McDUNNOUGH (*nec* Guenée), 1951, Amer. Mus. Novitates, no. 1535, pp. 9, 12, fig. 4C.

Through the courtesy of the authorities of the British Museum (Natural History), an opportunity has been afforded of examining the female holotype of *bistriolata*, as well as a genitalic slide of this specimen. It was found that not only was an erroneous identification made by the author in his paper of 1944 (Canadian Ent., vol. 76, p. 208) on the strength of a pair of specimens from the Agricultural and Mechanical College, Mississippi, but the unlabeled female from the United States National Museum, doubtfully referred to *pluviata* in his recent paper of 1951, should in all probability be transferred to *bistriolata* and considered as having had its origin in Texas. Apart from close similarity of genitalia, further substantiation of the correct locality is found in the fact that, as noted, the specimen bears a number "10" and this same number is mentioned by Swett (1915) as being on his so-called male type of *bistriolata* in the Museum of Comparative Zoölogy, Harvard College.

According to the female genitalia *bistriolata* undoubtedly belongs in the *transfigurata-manitoba* group, having double digitabula arranged in a peculiar distorted manner. In the type slide the bursa has unfortunately become twisted out of its normal position, but allowing for this the whole organ bears a very close similarity to figure 4C of my 1951 paper. A photograph of the holotype is given and it should be noted that as compared with the figure of *modestata* Barnes and McDunnough (*op. cit.*, pl. 5, fig. 4) the basal line (line I) is much less oblique and similar to that in Packard's figure of a Missouri specimen and also to the figure of a Decatur, Illinois, specimen given in the revision of 1917 (*op. cit.*, pl. 5, fig. 3). Both these specimens appear to be correctly identified. *Modestata* has already been removed from its association as a Coloradan race of *bistriolata* and placed as a race of *chirica-*

huata Swett (McDunnough, 1944, Canadian Ent., vol. 76, p. 208), and my latest studies would seem to confirm this reference. It remains therefore to rename the Mississippi specimens wrongly assigned to *bistriolata*. These are evidently closely related to *chiricahuata modestata* in both appearance and genitalia but show sufficient distinctions in both male and female genitalic organs to warrant the assumption that they constitute a good species.

Hydriomena mississippiensis, new species

Figures 10, 11, 15, 19, 24

Male antennae laterally compressed, thick, considerably thicker than in *modestata*. Palpi long, somewhat upturned at base, then porrect, dark blackish brown. Head and thorax dull olivaceous, considerably suffused and sprinkled with black scaling, especially on the patagia; metathoracic tuft large, black. Primaries with the basal area dull olivaceous, sprinkled with black, and defined sharply outwardly by a rigidly oblique, black line (line I). This is followed by a broad oblique band of blackish brown which almost entirely obscures band II and is more prominent in the male than in the female. The outer margin of this band is in general parallel to line I but faintly irregular in outline. This dark band is followed by a whitish postmedian band, slightly tinted with olivaceous, more distinct in the female than in the male. There is a faint dark discal dot, and the band is much reduced in width between vein 2 and the inner margin. The outer margin of this band is formed by the dark line IV, strongly outwardly oblique below costa, angled inwardly opposite the cell, then bulging outwardly and slightly crenulate to vein 2 and upright from this vein to inner margin. Beyond this pale band the outer portion of the wing is heavily suffused in the male with deep brown, obscuring the maculation except for the usual two transverse, black dashes below apex; in the female this area is paler, suffused with dull olivaceous, and bisected by a narrow curved band V, broadest at costa. Fringes concolorous, slightly checkered with blackish. Secondaries deep smoky with paler, slightly checkered fringes. Beneath smoky, secondaries with thin, curved, postmedian line and small discal dot. Expanse: male 27 mm., female 30 mm.

MALE GENITALIA (FIGS. 15, 19): Very similar, as already noted,

to those of *modestata*. The forks of the uncus are, however, much longer, with in consequence a very deep, narrowly U-shaped incision between them. They expand considerably towards their apices and are ventrally clothed with long hairs. The clasper is of the usual type, the costobasal tubercle (tubercle I) is large, cone shaped, and the chitinous ribbon arising from it is moderately wide and evenly curved. The adjacent tubercle II is large, obliquely narrowed distally, and gives rise to the usual large cluster of curved hairs with knobbed apices; the first hair, approximate to tubercle I, is finely chitinized, being slightly less than half of the width of the ribbon from tubercle I. The juxta plate is moderately broad, narrowing towards base to form a distinct stalk. Between the usual latero-apical projections is a narrow, arc-like chitinous plate, a characteristic feature if constant. Tufts of very long hairs arise from the apical prominences, and the whole plate, apart from the extreme base and central section, is sparsely clothed with hairs of a lesser length. The aedeagus shows no distinctive characters.

FEMALE GENITALIA (FIG. 24): In general of the usual type. The chitinous neck is short and broad, with the dorsal attachment of the membranous bursa situated well towards the proximal end. The margin between this chitinous area and the oval membranous bursa sac extends obliquely upward from left to right. On the right side distally is a fairly well-developed digitabulum, much larger than in *modestata*, the apex of which projects slightly beyond the obscure septum. There is a second digitabulum, somewhat broader than high, situated in the usual place on the left side.

HOLOTYPE: Male, Agricultural and Mechanical College, Mississippi, March 14, 1931 (R. E. Hutchings), in the Canadian National Collection.

ALLOTYPE: Female, same locality and collector, March 25, 1931, in the Canadian National Collection.

***Hydriomena edenata indistincta*, new subspecies**

Figures 5, 6

A small series collected by John L. Sperry along the upper Santa Ana River and adjacent areas of San Bernardino County, California, at approximately 6000 feet altitude, shows a general dulling of coloration, due to a grayish suffusion over the normally

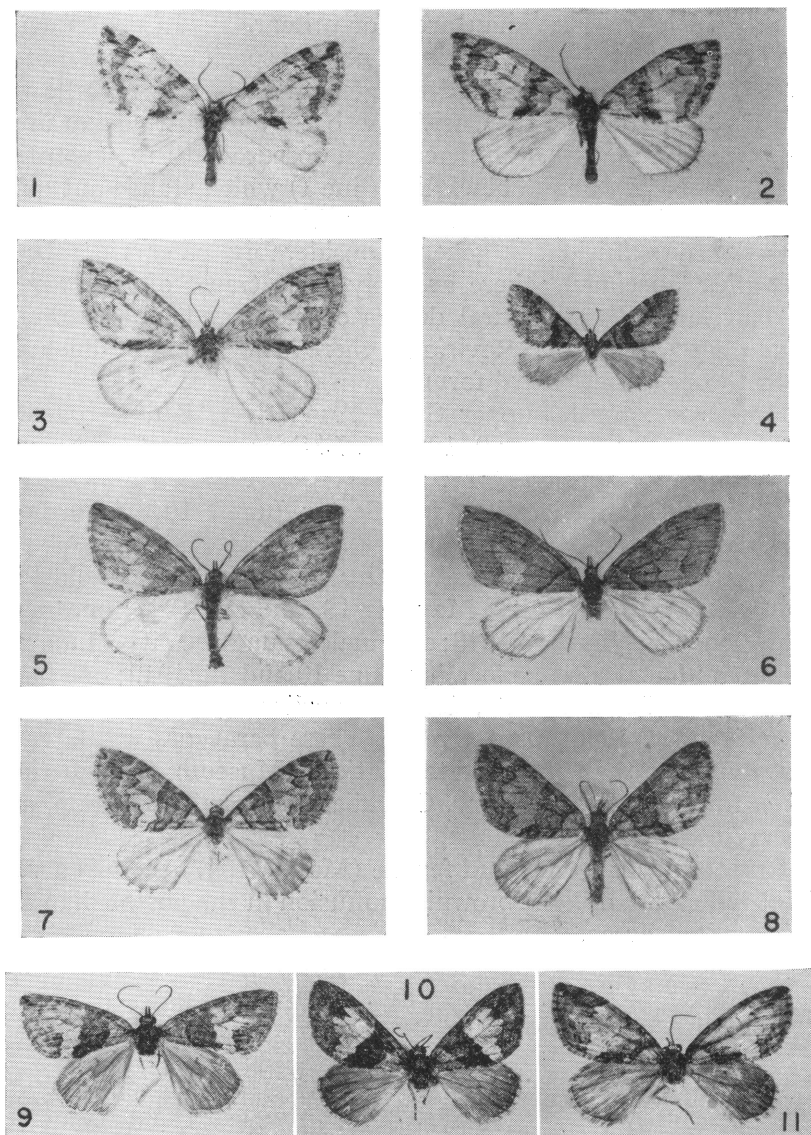
pale basal and postmedian areas of primaries. In consequence the bright contrasting coloration of normal specimens from coastal areas is entirely lacking, and the general appearance of the primaries is one of dull gray, with the basal and postmedian areas slightly paler and with all maculation obscure with the exception of the subbasal oblique black line (line I) which stands out quite sharply. The secondaries are rather shiny whitish, with a slight pale smoky suffusion, in general considerably paler than those of typical specimens; there are only faint traces of a bent postmedian line. In structural details of palpi and male genitalia (*vide* pl. 10, fig. 1, of "Revision") there is no apparent difference from those of the typical form.

HOLOTYPE: Male, upper Santa Ana River, San Bernardino County, California, May 9, 1947 (J. L. Sperry), in the American Museum of Natural History.

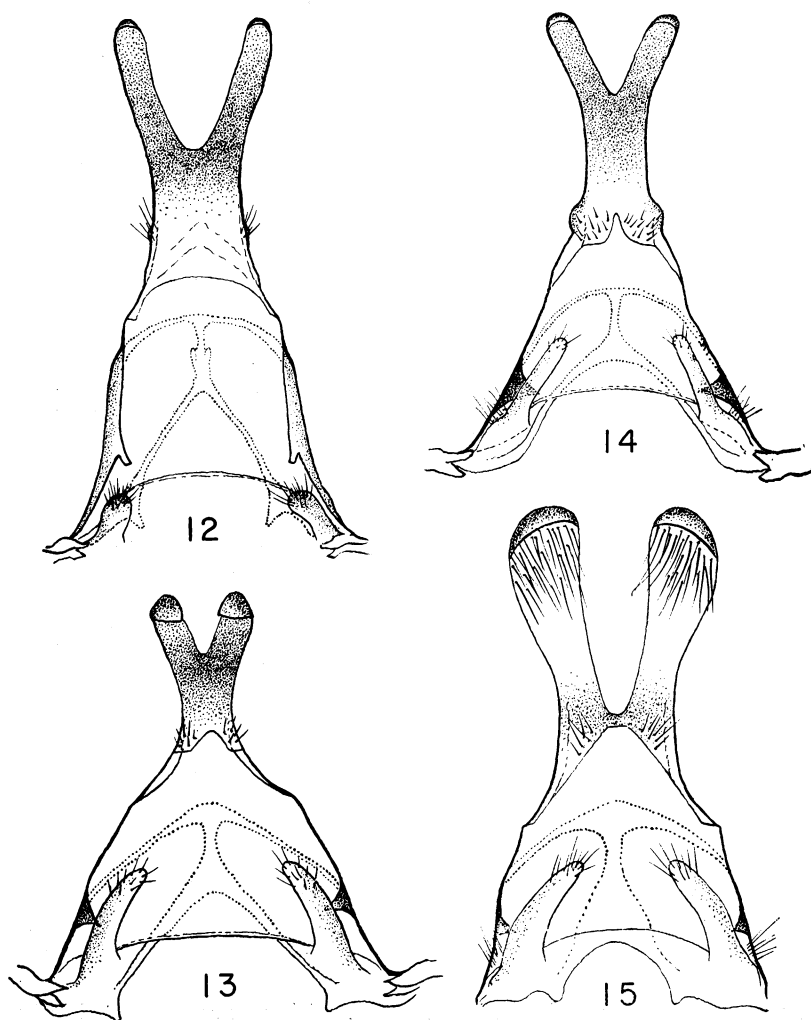
ALLOTYPE: Same locality and collector, June 7, 1948, in author's collection for the present.

PARATYPES: Four males, two females, same data as holotype; four males, same locality, May 11, 18, and 20, 1947; one male, same locality, June 6, 1948; one male, same locality, June 10, 1949; two females, same locality, June 10 and 12, 1949; one male, one female, Barton Flats, San Bernardino County, California, June 2 and 3, 1946, respectively. These paratypes will later be distributed to the United States National Museum, the American Museum of Natural History, Canadian National Collection, and Sperry collection.

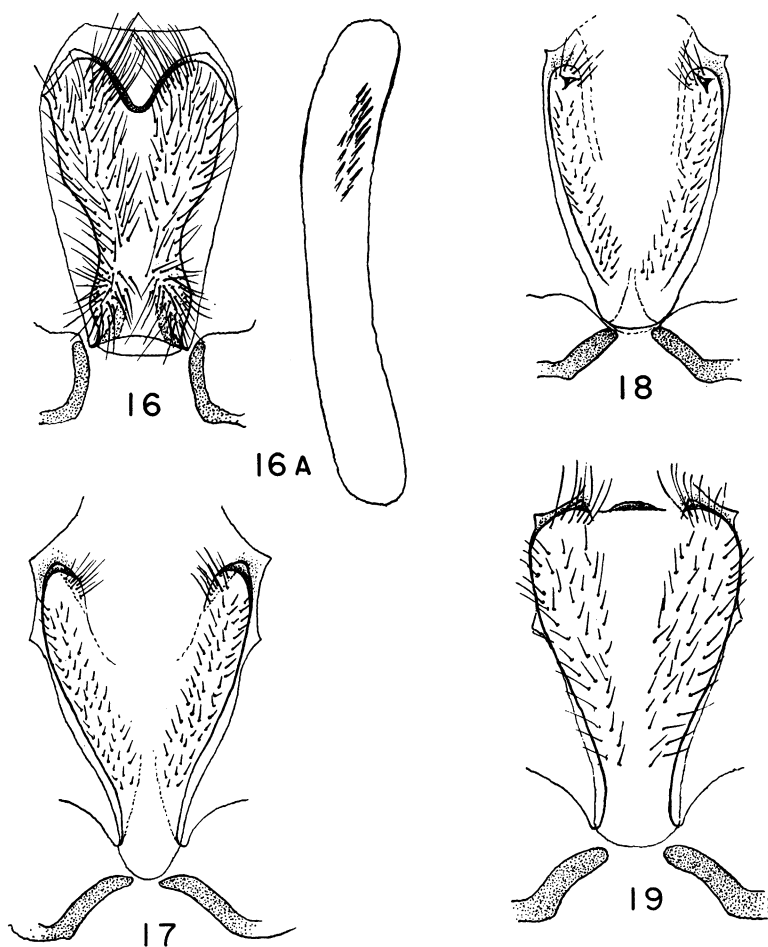
REMARKS: In a male and female (May 9, 1947) there is a very faint indication of light brownish suffusion in the postmedian and subterminal areas.



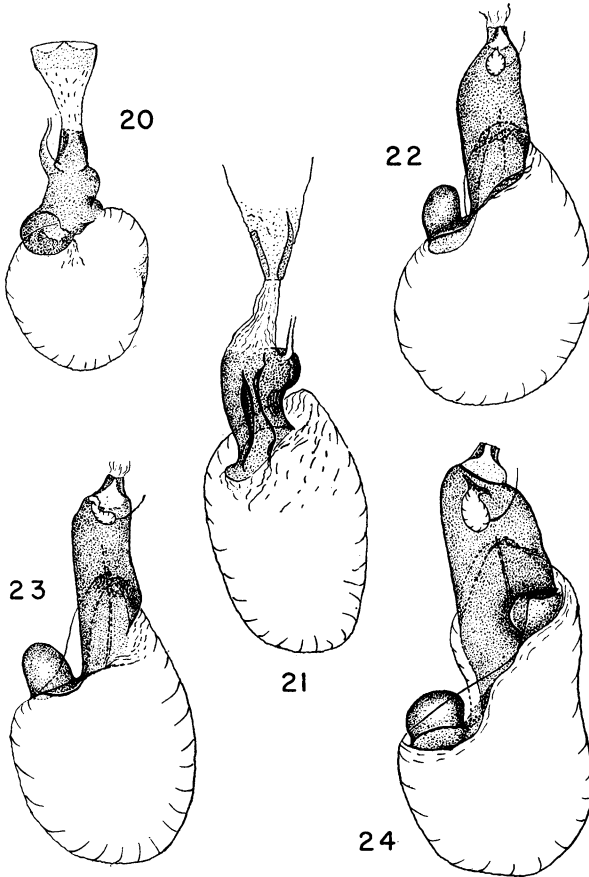
FIGS. 1-11. Adults. 1. *Hydriomena perfracta monoensis* McDunnough, holotype male. 2. *H. p. monoensis* McDunnough, paratype female. 3. *H. p. centralis* McDunnough, holotype female. 4. *H. sperryi* McDunnough, holotype female. 5. *H. edenata indistincta* McDunnough, holotype male. 6. *H. e. indistincta* McDunnough, allotype female. 7. *H. septemberata* McDunnough, holotype female. 8. *H. septemberata* McDunnough, paratype male. 9. *H. bistriolata* Zeller, holotype female. 10. *H. mississippiensis* McDunnough, holotype male. 11. *H. mississippiensis* McDunnough, allotype female.



FIGS. 12-15. Male genitalia, uncus. 12. *Hydriomena septemberata* McDunnough, allotype. 13. *H. perfracta* Swett. 14. *H. expurgata* Barnes and McDunnough. 15. *H. mississippiensis* McDunnough, holotype.



FIGS. 16-19. Male genitalia, juxta. 16. *Hydriomena septemnerata* McDunnough, allotype; 16A, aedeagus. 17. *H. perfracta* Swett. 18. *H. expurgata* Barnes and McDunnough, paratype. 19. *H. mississippiensis* McDunnough, holotype.



FIGS. 20-24. Female genitalia. 20. *Hydriomena sperryi* McDunnough, holotype. 21. *H. septemberata* McDunnough, holotype. 22. *H. perfracta centralis* McDunnough, paratype. 23. *H. expurgata* Barnes and McDunnough, holotype. 24. *H. mississippiensis* McDunnough, allotype.

