

Some New Species of Hawaiian Lepidoptera

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(Presented by O. H. Swezey at the meeting of December 1, 1927.)

The following notes and descriptions are made on some material kindly sent me for study by Mr. O. H. Swezey, and the types of the new species are deposited in the collection of the Hawaiian Entomological Society.

CARADRINIDAE

Euxoa Hübn.

This genus now includes most of the Hawaiian species formerly classed in *Agrotis*.

Euxoa xiphias (Meyr.).

Four examples, Kokee and Halemanu, Kauai, January to March (J. A. Kusche). All these are of the form with strongly developed black markings, which is apparently comparatively uncommon in the original Maui locality.

Euxoa charmocrita n. sp.

Male, female. 34-35 mm. Head ferruginous, transversely barred whitish. Palpi dark ferruginous-fuscous, apical hairs of second joint whitish or yellowish, tip of terminal whitish. Antennae male with acute triangular projections terminating in fascicles of cilia. Thorax red-brown mixed whitish dorsally, tegulae suffused whitish and internally edged black. Abdomen male light ochreous tinged rosy towards apex, female light greyish. Forewings elongate-triangular, costa nearly straight, termen rather obliquely rounded; rosy-brownish, mixed ochreous and whitish, especially along veins, veins forming fine dark lines; a black dot beneath base of costa; subbasal line irregular-dentate, black, terminated by a black submedian dash; first and second lines fine, dark fuscous, curved, first acute-dentate near costa and dorsum, second waved-dentate; median shade faintly darker, waved, angulated on reniform; spots dark fuscous or blackish, black-edged, orbicular oval, claviform somewhat larger, oval, resting on first line; reniform irregularly pentagonal, its lower posterior angle forming an acute projection, a small elongate blackish spot beneath this; some dark red-brown suffusion along costa beyond second line, with two or three minute whitish dots; subterminal line absorbed in groundcolour, but margined posteriorly by dark reddish-fuscous suffusion, especially in median and tornal blotches limiting two long teeth on veins 3 and 4; cilia pale brownish partially tinged whitish. Hind-

wings male whitish-grey, a grey postmedian line, female greyer; cilia paler or whitish-tinged.

Olokele Canyon and Kaholuamano, Kauai, February, April (J. A. Kusche); 2 examples. Allied to *E. xiphias*.

***Agrotis stenospila* n. sp.**

Male, female. 40-45 mm. Head and thorax reddish-fuscous, on collar behind head an angulated blackish transverse streak suffused dark fuscous centrally in front, thorax sometimes mixed grey-whitish. Palpi dark brown. Antennae male with acute triangular projections terminating in fascicles of cilia. Abdomen greyish or pale greyish-ochreous. Forewings rather elongate-triangular, costa slightly arched, termen somewhat obliquely bowed; reddish-fuscous; subbasal, first, and second lines indistinct, faintly pale, obscurely and interruptedly darker-edged; spots obscurely indicated by darker outlines or partially finely blackish-edged, orbicular irregular, reniform quadrate, these approximated and connected by a small distinct blackish-fuscous spot, claviform semioval, resting on first line; subterminal line indicated by minute pale dots, hardly traceable; cilia light reddish-fuscous. Hindwings grey; cilia light grey, sometimes reddish-tinged.

Kookee and Kaholuamano, Kauai, January to March (J. A. Kusche); 3 examples. Perhaps nearest *A. chersotoides*, but quite distinct.

***Aletia* Hübn.**

This genus includes those Hawaiian species referred by Hampson to *Cirphis*.

***Aletia amblycasis* (Meyr.).**

Kookee and Kaholuamano, Kauai, January, April (J. A. Kusche); 3 examples.

***Acrapex exanimis* (Meyr.).**

Male, female. 22-24 mm. Head and thorax male whitish-ochreous. Female ochreous-whitish; head and tegulae with long fine rough hairs, in male a few dark hairs interspersed. Palpi whitish, male second joint dark grey above. Antennae male flat-dentate, ciliations under 1. Abdomen elongate, whitish. Forewings male triangular, female somewhat more elongate, termen faintly sinuate, male somewhat oblique, female rather more oblique; whitish-ochreous, minute scattered black specks, more numerous in male, interneural spaces tinged brownish-ochreous, especially in male; in male elongate patches of grey suffusion extending from angles of cell to termen and confluent on termen; black dots on fold at 2/5 and 3/4, and at 4/5 of disc between veins 5 and 6, in male distinct, in female minute or obsolete; cilia whitish-ochreous, on termen and tornus tinged grey and speckled dark grey. Hindwings and cilia ochreous-white.

Redescribed from 4 specimens (1 male, 3 female) bred from

larvae feeding in stems of *Panicum torridum* at Koko Head, Oahu (O. H. Swezey); the former description, taken from a single worn female (the only example then known), being inadequate for recognition. The species is confined to the Hawaiian Islands, but there are closely allied species in the Australasian region.

PLUSIADAE

Nesamiptis senicula n. sp.

Female. 39-40 mm. Head and thorax light fuscous irrorated white, frontal tuft long, thorax with small dense posterior crest. Palpi 3, brownish-grey, sprinkled darker and whitish. Forewings triangular, costa faintly sinuate, apex pointed, termen rather obliquely bowed; fuscous, suffusedly irrorated white, with obscure scattered dark fuscous strigulae; first line strongly curved, indistinct, second rather strongly sinuate inwards on lower half, space between these less irrorated whitish and towards second line strongly suffused dark fuscous, ground colour beyond this whiter-suffused; a small black dot in disc at 2/5; subterminal line fine, wavy, whitish, obtusely angulated in middle and with a sinuate excavation below this, preceded by a fascia of fuscous suffusion darker posteriorly, and followed on costal third by a white triangular patch edged posteriorly with dark fuscous suffusion, and on dorsal half by whitish suffusion; a dark fuscous terminal line with blackish interneural dots; cilia fuscous with darker median shade or lines and whitish bars. Hindwings grey; a darker transverse mark on end of cell; a dark fuscous terminal line; cilia grey-whitish, one or two dark lines more or less expressed.

Kaholuamano, Kauai, April (J. A. Kusche); 3 examples. Allied to *N. obsoleta* but far larger, the second line more oblique on costa, the palpi (female) relatively shorter.

Nesamiptis proterortha n. sp.

Female. 27-28 mm. Head, palpi, thorax light fuscous irrorated whitish, palpi 3½. Forewings costa more sinuate than in *senicula*, apex less pointed; fuscous with scattered dark fuscous strigulae, irrorated white on basal area and costal half of median band; lower half of first line straight, oblique, black, upper half absent; a black discal dot beyond middle; second line straight, oblique, much nearer termen on costa than on dorsum, dark fuscous, preceded by dark fuscous suffusion except towards costa, and followed by a fascia of white irroration, on costa extending to apex; subterminal line indicated by a series of small dark fuscous spots angulated somewhat below middle, slightly sinuate on upper half, more deeply on lower; a darker terminal line and series of interneural blackish dots; cilia fuscous with darker lines, whitish bars hardly indicated. Hindwings rather dark grey; a dark fuscous terminal line; cilia whitish-grey, a fine dark fuscous subbasal and thicker median line.

Kaholuamano, Kauai, April (J. A. Kusche); 2 examples. Allied to *N. plagiota*, with first and second lines similar in form, but

distinguished by quite different sub-terminal line. Although associated in time and place with the preceding, this is entirely distinct; all four species of the genus are found in Kauai, probably therefore its original home.

***Cosmophila vulpicolor* n. sp.**

Male, female. 38-42 mm. Head and thorax brown-reddish, light dull crimson, or ochreous-yellowish. Palpi deep dull crimson, second joint sometimes yellow-tinged. Antennae male shortly dentate, ciliated and with a longer bristle on each tooth. Anterior legs wholly deep dull crimson. Forewings rather elongate-triangular, apex pointed, termen somewhat oblique, rounded-bent in middle, slightly sinuate on upper half, straight on lower; rather deep brown-reddish, or in one specimen yellow-ochreous, more or less obscurely strigulated paler and darker; first line obscurely darker, only traceable between cell and 1b; orbicular obsolete; reniform indicated by two transversely placed blackish or dark grey dots, connected by a slightly curved fine indistinct darker line; second line darker, sometimes tinged grey, posteriorly well-defined and faintly pale-edged, on upper half excurved and irregularly waved, on lower half quite straight; sometimes an irregular subterminal series of faint cloudy greyish spots or dots; terminal edge suffused darker; cilia concolorous with wing, tips pale, sometimes faint greyish bars. Hindwings light dull greyish-rosy, in the ochreous example pale rosy-ochreous; cilia pinkish-grey-whitish.

Manoa, near Honolulu, Oahu, 4 reddish examples bred August from larvae on *Osteomeles anthyllidifolia* (F. X. Williams); Wailupe, Oahu, a single yellow example bred from unknown food-plant (J. C. Bridwell), but certainly conspecific. Allied to the widely distributed *fulvida* Guen., which has the anterior tibiae and first joint of tarsi white.

HYDRIOMENIDAE

***Hydriomena leucoxylla* (Meyr.).**

Male, female. 30-36 mm. Kaholuamano and Kokee, January to April (J. A. Kusche); 8 examples. Originally described from a single female (also from Kauai), which in the absence of the male was referred to *Xanthorhoe*, being indeed very like the European *X. montanata*; the discovery of the other sex shows that it is a typical *Hydriomena*, of which genus there is as yet only one other Hawaiian species.

SELIDOSEMIDAE

***Scotorythra crocorrhoa* n. sp.**

Female. 30-38 mm. Head and palpi ochreous-orange, neck sometimes white. Thorax light ochreous-orange. Abdomen light ochreous-orange,

sides and apex sometimes whitish. Forewings triangular, apex pointed, slightly prominent, termen slightly bowed, somewhat oblique; 11 usually anastomosing with 12; light ochreous-orange, finely strigulated light grey; first and second lines formed by series of grey dots on veins, sometimes faint or almost obsolete, first slightly curved, second curved outwards in median area, somewhat sinuate beneath this; median shade faintly greyish or hardly perceptible, nearly straight; cilia light ochreous-orange, sometimes faintly greyish-tinged, tips whitish. Hindwings as forewings, but all lines obsolete, termen gently waved.

Kokee and Olokele Canyon, Kauai, January, February (J. A. Kusche); 12 examples. Next *arboricolans*, but easily distinguished from all its allies by colour; unfortunately no male was taken.

PYRAUSTIDAE

Hydriris Meyr.

Hydriris exaucta n. sp.

Male, female. 27-33 mm. Head pale greyish-ochreous suffused blackish except collar. Palpi blackish. Thorax greyish-ochreous sprinkled blackish. Abdomen male very long. Forewings elongate-triangular, termen very obliquely bowed; light brown irrorated dark fuscous; first line obscure, dark fuscous, angulated in middle; orbicular and discal spots irregularly 8-shaped, dark fuscous, partially pale-edged, centrally tinged grey, discal larger; second line very oblique, blackish, irregularly dentate, somewhat prominent in middle and slightly sinuate on lower half, separated by a narrow dark grey fascia from the irregularly dentate ochreous-whitish subterminal line; four small dark grey spots on costa posteriorly separated by whitish; a whitish terminal line spotted dark fuscous; cilia ochreous-whitish barred fuscous, a fuscous basal shade. Hindwings as forewings, but orbicular hardly perceptible, discal round, blackish, ringed whitish.

Kaholuamano and Kokee, Kauai, January to April (J. A. Kusche); Halehaku, Maui, June (E. H. Bryan). 6 examples. A true *Hydriris*, much larger than either of the other species of the genus; an interesting discovery.

TORTRICIDAE

Spheterista Meyr.

(Exotic Microlepidoptera, I, p. 2, 1912.)

Spheterista pleonectes (Walsm.).

Glenwood, Hawaii, one example bred March from *Cheirodendron* (O. H. Swezey).

Spheterista asaphopsis n. sp.

Male 15 mm., female 17-21 mm. Head and palpi ferruginous-brown, face sometimes pale ochreous. Antennal ciliations male $\frac{1}{2}$. Thorax ferruginous-brown, usually a pale ochreous anterior bar, seldom dorsally suffused pale ochreous or infuscated. Forewings moderate, somewhat narrowed posteriorly, male rather short, female more elongate, costa moderately arched anteriorly, male with strong fold from base to near middle; in the single male dull ferruginous-fuscous, coarsely strigulated darker, in female ferruginous-ochreous, pale ochreous, or ferruginous-whitish, more or less darker-strigulated, in one example strewn with dark ferruginous-fuscous strigulae; in male a blackish tuft near base beneath costal fold; some small dark fuscous spots or dots along costa; dorsum with dark or blackish dots separated by whitish dots; basal patch more or less brown-suffused, ill-defined, posterior edge in male traversed by a rather inwards-oblique white shade broader towards costa, in one female marked on dorsum with a ferruginous-blackish spot; central fascia ill-defined, more or less suffused light purplish-fuscous or brown, oblique, irregular-edged, considerably dilated on lower half; some dark strigulation or striae before termen, in male an apical blotch of white suffusion including an irregular blackish-fuscous spot; cilia light ferruginous-brown, sometimes mixed whitish. Hindwings grey, faintly darker-strigulated; cilia grey-whitish, a grey sub-basal shade; undersurface whitish, scattered grey strigulae.

Mt. Kaala, Kaunohoua, Palolo, Oahu, bred May from *Cheirodendron Gaudichaudii* (O. H. Swezey); 7 examples. Though allied to *pleonectes* and *variabilis*, certainly distinct by the much shorter ciliations of male antennae (in both those species slightly exceeding 1). One female example has veins 7 and 8 of forewings unusually long-stalked, 9 absent, and 7 of hindwings absent; abnormalities of this class are probably due to some accidental pressure in the pupa stage.

Eulia Hübn.

The species placed by Lord Walsingham in *Archips*, I refer to *Eulia*; no species of *Cacoecia* (= *Archips* Wals.) has been found in Hawaii.

Eulia dermatopa n. sp.

Male, female. 18-20 mm. Head, palpi, and thorax male dark brown, female pale brownish-ochreous, thoracic crest dark brown. Antennae male indistinctly subdentate, ciliations under $\frac{1}{2}$, towards base longer but less than 1. Abdomen light grey. Forewings suboblong, costa anteriorly moderately arched, male with narrow fold on basal third, termen rather oblique; male brown or light brownish, more or less marked with dark brown transverse striae accompanied by dark fuscous irroration, female pale brownish-ochreous; basal patch large, edge irregular, oblique, in male mostly merged in the general darker colouring, in female brown except towards

costa and at extreme base; central fascia very irregular-edged, towards costa moderate, on lower $2/3$ much broader, in male more or less distinctly outlined with dark striae, in female brownish, lighter towards costa, sometimes suffusedly confluent with basal patch in disc; about eight small dark fuscous spots on costa; some dark fuscous dots on dorsum; in female usually two series of minute dark fuscous dots towards termen; cilia light ochreous to whitish-ochreous, round apex and costa barred blackish or dark fuscous. Hindwings whitish-grey, suffusedly spotted or strigulated grey; cilia whitish-grey.

Olympus and Tantalus, Oahu, bred January, April, May from *Suttonia lessertiana* (O. H. Swezey). A larger female (23mm.), with basal patch and central fascia quite obsolete, bred April from *Suttonia*, Olympus, may perhaps be the same species.

***Eulia notocosma* n. sp.**

Male. 18 mm. Head pale brownish-ochreous, crown more brownish. Palpi brownish-ochreous. Antennae filiform, ciliations $\frac{1}{2}$. Thorax ochreous-brown, a large ochreous-white dorsal blotch anteriorly rounded and edged dark fuscous extending from near anterior margin to dark fuscous posterior double crest, apical half of tegulae white. Abdomen white, faintly greyish-tinged towards apex. Forewings suboblong, costa anteriorly moderately arched, costal edge slightly raised towards base but without developed fold, termen somewhat oblique; pale yellow-ochreous, veins posteriorly deeper ochreous; basal patch large, ferruginous-ochreous, edge irregular, oblique, costal edge dark fuscous dotted black; upper half of central fascia brown mixed dark fuscous, united with a similar inwards-oblique fasciate streak from costa at $\frac{3}{4}$ to form a triangular patch enclosing an ochreous spot on costa in which is a small dark fuscous costal spot, lower half of central fascia lighter brown, broadly expanded on both sides in disc, but narrowed towards dorsum; three or four small dark fuscous spots on costa towards apex, and some dots on dorsum; cilia light brownish-ochreous, barred dark fuscous on costa and apex, some basal dots on termen. Hindwings white, only two or three faint greyish spots in disc posteriorly; cilia ochreous-white.

Female. 24 mm. Thorax whitish-ochreous, a broad antemedian bar on back and posterior crest dark brown. Forewings with a small ferruginous-ochreous and brown spot before middle of termen. Hindwings faintly spotted light grey on terminal half. Otherwise as male.

Olympus, Oahu, 2 male examples bred January from *Suttonia lessertiana*, 1 female bred April from *Astelia veratroides* (O. H. Swezey); these are unquestionably sexes of the same species. Easily recognized by the white hindwings and peculiarly adorned thorax, also by absence of costal fold in male.

***Eulia pycnomias* n. sp.**

Male. 18-20 mm. Head light brownish-ochreous. Palpi yellow-ochreous. Antennae indistinctly subdentate, ciliations $\frac{1}{2}$, longer towards base but

under 1. Thorax dark brown, a dark fuscous angulated antemedian bar, posterior crest double dark fuscous, apex of tegulae expanded with dense rough scales. Abdomen white. Forewings suboblong, costa anteriorly moderately arched, with slender fold on basal fourth, termen somewhat oblique; brownish-ochreous, sometimes some indistinct scattered greyish strigulae; costal fold dark fuscous dotted black, basal patch indicated by a short oblique streak of ferruginous-brown suffusion towards costa only; a subtriangular dark brown patch mixed purplish-grey extending on costa from $2/5$ to $4/5$ and reaching half across wing, its apex truncate; median area of dorsal edge white dotted black; cilia brownish-ochreous. Hindwings white, three or four small cloudy grey spots in disc posteriorly; cilia white, towards base yellowish-tinged.

Wailupe, Oahu, bred January from *Suttonia lessertiana* (O. H. Swezey); 2 examples. Distinct by white hindwings, dark brown thorax, and especially the tufted tegulae. The empty pupa-shells sent are peculiarly white and transparent.

***Eulia chlorippa* n. sp.**

Male. 18 mm. Head and palpi dark fuscous, slightly mixed ochreous-whitish. Antennae distinctly dentate, cilia $1/2$, toward base becoming over 1. Thorax dark fuscous, obscurely spotted pale ochreous. Abdomen whitish-grey, whiter at base. Forewings rather broad, costa rather bent before middle, with narrow fold from base to $2/5$, termen somewhat oblique, whitish-ochreous, a few very minute scattered blackish dots; costal fold ochreous, sprinkled and dotted black; a wedgeshaped fuscous blotch along costa from before middle to $4/5$, spotted blackish on costa, beneath with an attached black mark from anterior angle and small spot on end of cell, beneath first of these a connected irregular black spot centred fuscous and followed by a black dot; cilia whitish-ochreous, round apex barred fuscous. Hindwings grey-whitish, strewn with small grey spots and strigulae; cilia white.

Olympus, Oahu, bred April from *Suttonia lessertiana* (O. H. Swezey); 1 example. Broader-winged than the other species, with longer antennal ciliations, and conspicuously pale ground-colour, which (though really ochreous) appears whitish to the eye.

EUCOSMIDAE

***Adenoneura conspicua* (Wals.)**

Male, female. 14-19 mm. Tantalus, Kahauiki, Sugarloaf Hill, Oahu, bred September to November from seeds and decaying bark of dead *Acacia koa* (Swezey, Hadden); 16 examples. Placed by Walsingham (who did not know the male) in *Enarmonia*; his example was from Maui.

GELECHIADAE

***Aristotelia compsodelta* n. sp.**

Male, female. 11-13 mm. Head white, sometimes slightly speckled grey or fuscous. Palpi white, base or basal half and usually a subapical ring on second joint, and basal, median, and apical rings on terminal joint more or less developed dark fuscous. Thorax whitish, sometimes slightly speckled fuscous, shoulders dark fuscous. Forewings with apex obtuse-pointed, termen very obliquely rounded, 2 from about $3/4$, 6 separate; white, more or less closely irrorated fuscous or dark fuscous; a wedge-shaped dark fuscous spot on base of costa; a large blackish-brown triangular blotch occupying nearly median third of costa, edged clearer white, its apex more or less ferruginous and almost reaching dorsum; a semioval blackish-brown spot in disc at $3/4$; cilia greyish or whitish, base within a fine blackish subbasal line grey dotted white. Hindwings and cilia light brownish-grey.

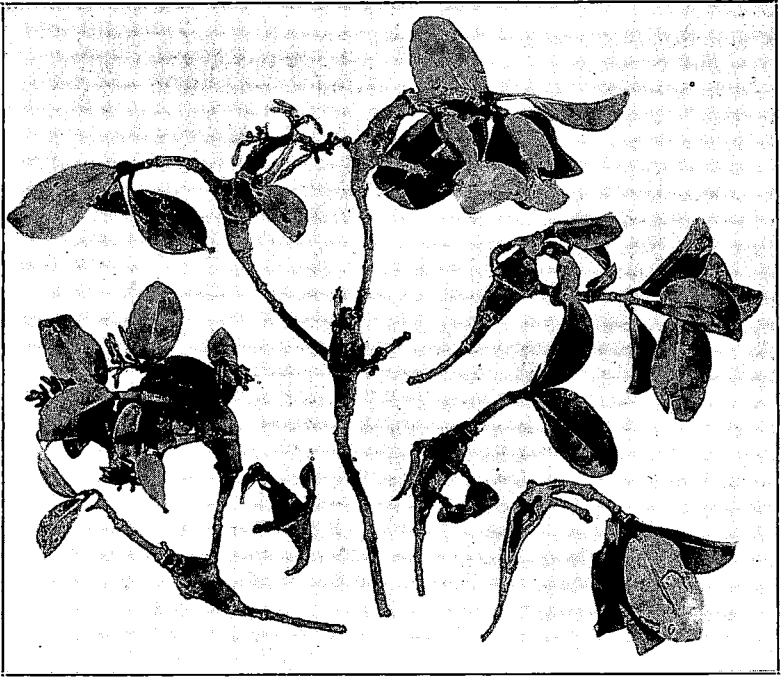
Tantalus, Oahu, bred August from capsules of *Kadua acuminata* (Swezey, Lyon); 10 examples. Nearest to *A. elegantior*.

Walsingham described 9 Hawaiian species of *Aristotelia* from 17 specimens only, all captured. The 6 species now added are represented by 44 specimens, all reared from the larvae; hence it is evidently easier to rear specimens than to capture them. All have the same form of wing and neural characteristics (though there is considerable diversity in this large genus elsewhere), and are nearly allied to the nine previously known; and as all six are from the same island, I infer that a considerable number of species of the genus remain to be discovered in the group; probably there may be 40 or 50 species of *Aristotelia* altogether existing in the Hawaiian islands. From their close conformity of type it would further appear that all are probably the descendants of a single original immigrant form. If so, a parallel case exists in New Zealand, where there are between 40 and 50 species of *Crambus* probably also all derived from a single form, the country of origin being in each case the same, South America. The geological date of the New Zealand immigration is inferred to be early Tertiary, and if an equivalent rate of development be assumed in each case (which is not unreasonable, the circumstances being very similar) an approximate date is obtained for the Hawaiian introduction, where no geological data are available. Using this as a standard, some idea can be formed of the geological age of other important Hawaiian genera; thus, on the hypothetical formula that the period of time since the introduction of a genus is in

direct ratio of the square root of the number of indigenous species, and supposing that the number of species of *Hyposmocoma* is 300 (a probable estimate, over 200 being already known), we should find the relative ages of *Aristotelia* and *Hyposmocoma* to be in the proportion of 7 to 17.

***Aristotelia xylospila* n. sp.**

Male, female. 14-19 mm. Head pale greyish-ochreous to fuscous. Palpi with second joint blackish with whitish apex, terminal joint whitish with blackish basal or subbasal, median, and apical rings. Thorax varying from



Stem galls on *Gouldia* caused by *Aristotelia xylospila*.

whitish-fuscous to fuscous, sometimes dorsally and anteriorly suffused blackish. Forewings fuscous, more or less suffusedly irrorated white, more or less strewn with small blackish dots or strigulae; basal area irregularly mixed blackish; an indistinct narrow direct whitish fascia at $1/4$, followed by a dark brown trapezoidal blotch from costa reaching fold; second and sometimes first discal stigma distinct, dark fuscous; a small dark fuscous apical spot, and sometimes dots or small spots on posterior part of costa and ter-

men; cilia pale greyish, basal half round costa and termen barred alternately blackish and white irroration. Hindwings dark grey; cilia grey.

Mount Kaala, Oahu, bred from large galls on new stems of *Gouldia coriacea* (O. H. Swezey); 8 examples.

***Aristotelia hcmoxyla* n. sp.**

Male, female. 12-19 mm. Head light greyish-ochreous to fuscous. Palpi ochreous-whitish, variably ringed or more generally suffused dark fuscous, varying from having only base of second joint dark fuscous to total suffusion of palpus except apex of second joint. Thorax fuscous to dark fuscous. Forewings more or less light ochreous-brownish suffusedly irrorated white, strewn with small dark brown strigulae; base more or less narrowly suffused dark fuscous; a dark brown triangular blotch from costa before middle reaching to fold, edged anteriorly by a more or less expressed oblique fascia of white suffusion extended to dorsum; second discal stigma moderate; distinct, dark brown, first present only in one example; cilia ochreous-whitish, base spotted fuscous. Hindwings grey; cilia pale ochreous-greyish.

Pauoa and Kaumuohona, Oahu, bred February, May, July from galls on stems of *Gouldia coriacea* (O. H. Swezey); 11 examples. Very similar to the preceding, which feeds on the same plant in the same way, but certainly distinct.

***Aristotelia multiformis* n. sp.**

Male, female. 9-15 mm. Head, palpi, and thorax whitish-ochreous or light reddish-ochreous to fuscous and dark fuscous, terminal joint of palpi sometimes whitish with darker rings. Forewings whitish-ochreous or light reddish-ochreous, irregularly mottled and strigulated ferruginous or dark reddish-fuscous; sometimes an irregular slender oblique dark streak from costa at 2/5 to fold, in the darkest specimen becoming a rhomboidal blackish blotch terminated beneath with ferruginous; cilia pale reddish-ochreous (in the darkest specimen light grey except on termen), base spotted reddish-fuscous or blackish. Hindwings and cilia from ochreous-whitish to light grey.

Punaluu, Konahuanui, Tantalus, and Olympus, Oahu, bred January to March, August, September from mines in leaves of *Gouldia coriacea* (O. H. Swezey); 8 examples. Very variable in colouring, but doubtless all conspecific. Next to *A. mendax*.

***Aristotelia gratula* n. sp.**

Female. 12 mm. Head and thorax whitish-ochreous, face white. Palpi white, subapical band of second joint, and extreme base and supramedian band of terminal joint ochreous speckled dark fuscous. Forewings white partially speckled light reddish-grey, with scattered strigulae of fine black irroration; basal area light ferruginous-grey except towards costa; a triangular dark fuscous antemedian blotch from costa to fold, its lower part suffused ferruginous, apex truncate, some dark irroration occupying dorsal area beneath and beyond this; a small oval ferruginous spot speckled blackish

in disc beyond middle, and a rather larger one (second discal stigma) at 2/3; two small suffused dark fuscous spots on costa towards apex; some darker irroration towards termen; cilia grey, round apex tinged ferruginous, base indistinctly darker-barred. Hindwings grey; cilia light grey.

Olympus, Oahu, bred January from mine in leaf of *Straussia kaduana* (O. H. Swezey); 1 example.

***Aristotelia thurifica* n. sp.**

Male, female. 8-9 mm. Head and thorax ochreous-whitish to violet-ochreous, sometimes speckled grey. Palpi whitish, second joint usually suffused dark ochreous-grey except apex, terminal joint sometimes with dark ochreous-grey median band. Forewings violet-ochreous, strewn with dark fuscous strigulae; plical and second discal stigmata sometimes faintly traceable as small ferruginous-brown spots; usually no other definite markings, but in one specimen a flattened-triangular ferruginous-brown median costal blotch connected with a spot on dorsum beyond middle, these preceded by white suffusion extended along costa to a very irregular oblique ferruginous-brown streak from base of costa to fold, base of wing white beneath this; posterior area of wing suffusedly mixed white irroration except second discal stigma and margins; cilia light grey, sometimes a darker antemedian shade, or base pale ochreous barred dark brown. Hindwings and cilia grey.

Tantalus and Palolo, Oahu, bred December and January from mines in leaves of *Kadua acuminata* (O. H. Swezey); 6 examples.

DIPLOSARIDAE

***Hyposmocoma jugifera* n. sp.**

Male. 16-18 mm. Head white-brownish, face more whitish. Palpi whitish, terminal joint suffusedly lined blackish on each side anteriorly. Thorax pale brownish. Forewings light brownish, with scattered black specks; blackish dots on base of costa and dorsum; some fuscous suffusion along dorsum from a small blackish spot at 1/4 to tornus, lighter posteriorly; stigmata moderate, black, discal connected by a strong black streak, plical slightly before first discal; a suffused fuscous patch occupying apex and upper half of termen; cilia ochreous-grey-whitish, basal half barred dark fuscous, apical bar extending to tips. Hindwings grey; cilia pale grey.

Tantalus and Niu, Oahu, bred August from dead branch of *Acacia koa* (F. X. Williams, O. H. Swezey); 2 examples. Perhaps nearest *H. ocellata*.

***Hyposmocoma erismatias* n. sp.**

Male 15 mm., female 18 mm. Head and thorax ochreous-white, tegulae dark brown. Palpi white, base and tip dark fuscous. Forewings ochreous-white; a moderate median streak of brown suffusion from base to end of cell, at base reaching costa, edged beneath by a slender black streak from base terminating in plical stigma, which is rather obliquely before first discal; discal stigmata moderate, irregular, black, within or just above median

streak; a marginal series of black dots round posterior fourth of costa and termen; cilia whitish, at apex a brown bar. Hindwings light grey; cilia ochreous-whitish.

Nuuanu, Oahu, bred October from dead stem of *Euphorbia* (J. C. Bridwell); 2 examples.

Hyposmocoma chilonella Wals.

Olinda and Iao Valley, Maui, 14 examples bred February and March from dead wood of *Cheirodendron*, *Rubus*, *Acacia*, and *Aleurites* (O. H. Swezey).

Hyposmocoma insinuatix n. sp.

Male. 17-18 mm. Head and thorax dark purplish-bronzy-fuscous. Palpi lilac-fuscous, terminal joint whitish. Forewings dark purplish-fuscous; a straight white line from middle of base along fold to tornus, thence along termen to apex; cilia light grey, on costa fuscous. Hindwings bluish-grey; cilia whitish-ochreous-grey.

Kainalu, Molokai, 2000-3000 feet, bred July from dead wood of *Smilax sandwicensis* (O. H. Swezey); 2 examples. Next *continuella*, which has a whitish head and broader stripe.

Hyposmocoma chloraula n. sp.

Male, female. 18-20 mm. Head and thorax light brownish. Palpi light brownish-ochreous. Forewings dark fuscous; costal and dorsal edge brownish-whitish from base to 3/4; all veins marked with cloudy brownish-white lines, those above and below submedian fold anteriorly suffused and forming thicker streaks; cilia ochreous-whitish, towards base indistinctly barred brownish. Hindwings pale whitish-grey; cilia whitish-grey-ochreous.

Summit Camp, Kauai, bred April from dead stem of *Astelia* (O. H. Swezey); 2 examples. In one of these vein 9 of forewings rises out of 8 near base, in the other separate as usual.

Hyposmocoma caecinervis n. sp.

Male, female. 16-20 mm. Head and thorax brown. Palpi ochreous-whitish. Forewings ochreous-brown, sometimes pale-streaked between veins, costal edge obscurely pale; veins marked with fine dark fuscous lines; discal stigmata linear, blackish, sometimes obsolete; a more or less distinct pale ochreous streak along fold; cilia varying from light brownish to fuscous. Hindwings pale greyish; cilia whitish-grey.

Mount Kaala, Oahu, bred January from dead stems of *Smilax sandwicensis* (J. C. Bridwell); 3 examples. Allied to *malacopa* and *chloraula*.

Hyposmocoma palmivora n. sp.

Female. 16-18 mm. Head ochreous-whitish, crown posteriorly more or less suffused ferruginous, sidetufts sometimes mixed dark fuscous. Palpi ochreous-whitish, more or less sprinkled dark fuscous, second joint rough beneath except toward base, terminal joint somewhat shorter. Antennae whitish ringed dark fuscous. Thorax whitish-ochreous variably tinged or suffused ferruginous. Forewings whitish-ochreous more or less wholly suffused ferruginous, sprinkled dark fuscous; large erect scale-tufts beneath fold at about 1/5 and middle of wing; discal stigmata forming dark spots, sometimes blackish-mixed surrounded by more or less developed pale rings, plical similar or not traceable, slightly beyond first discal, sometimes confluent with it; beyond second discal an oblique darker fascia, edged posteriorly by a whitish-ochreous streak; cilia whitish-ochreous tinged rosy, basal half with bars or blackish irroration. Hindwings ochreous-whitish-grey; cilia whitish-ochreous.

Eight examples, Kumuwela, Kauai, 4000 ft., bred August from larvae "feeding amongst the abundant yellowish cottony tomentum on underside of the leaves of the native palm *Pritchardia eriophora*, particularly between the folds of the leaf" (O. H. Swezey).

GRACILARIDAE

Parectopa Clem.

The Hawaiian species placed by Walsingham in *Gracilaria* belong properly to *Parectopa*, well represented in America.

Parectopa sciallactis n. sp.

Male, female. 4.5-6 mm. Head and thorax white or grey-whitish. Palpi white, sometimes with fuscous rings at apex of second joint and in middle of terminal. Antennae white ringed fuscous. Forewings light ochreous-yellowish, sometimes partially suffused light greyish; markings pearly-white or sometimes greyish, edged with fine rows of black scales; a short median line from base meeting apex of an oblique spot from dorsum near base; three very oblique streaks from costa, first continued along costa to base, first and third meeting oblique spots from dorsum to form acutely angulated fasciae, second reaching half across wing; a short direct white mark from costa towards apex; a suffused white apical patch, containing a black apical dot; cilia whitish or grey-whitish, with two black lines. Hindwings grey; cilia whitish.

Seven examples, Kaena Point, Oahu, reared November from mines "in fleshy leaves of *Lipochaeta integrifolia*, growing in rocky places near the seashore" (O. H. Swezey). The markings, though often quite clear, are sometimes confused and partly obliterated by the grey suffusion.