

New Species of Hawaiian Lepidoptera

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SELIDOSEMIDAE

Scotorythra kuschei n. sp.

Male, female.—33–34 mm., abdomen 11–12 mm. Head and thorax ochreous and brown mixed, two large areas of dark brown on base of thorax. Antennae in male ochreous spotted with dark brown; in female ochreous minutely dotted with brown. Palpi ochreous with a slight mixture of brown. Abdomen light brown, anal tuft ochreous. Legs ochreous spotted with dark brown, posterior tarsi in male 3/5. Forewings with apex slightly produced, termen very slightly waved, bowed; ochreous, conspicuously banded with dark brown, costa spotted with brown, first and second lines narrow, ochreous, situated in wide brown bands, first line bent outward on median vein, second line sinuate, bent inward between veins 3 and 1c; discal spot large, merged in the brown median band which narrows beyond vein 2; wide subterminal brown band somewhat ochreous centered, a terminal series of brown spots between veins; veins conspicuously ochreous; cilia ochreous. Hindwings somewhat mottled ochreous and light brown, darker towards termen.

Somewhat resembles *triscia* by the brown bands of the forewings, but differs particularly in the conspicuous ochreous veins.

The species is named for Mr. August Kusche, who spent several months collecting on the high plateau of Kauai on three different years (1919–1921), especially in the endeavor to obtain specimens of the green sphingid, *Tinostoma smaragditis* (Meyrick), for Mr. B. Preston Clark, of Boston. None of this green sphingid was obtained, but a considerable collection of other moths was made, among which were several new species. (See Proc. Haw. Ent. Soc., VII, pp. 91–94, 1928; and pp. 273–278, 1929.)

Described from four specimens collected by Kusche in 1919, two of them on the high plateau, and two of them labelled as collected on Niihau. There is some doubt as to this latter record, however, for the Island of Niihau is privately owned, and visitors not allowed. Yet Mr. Kusche turned in specimens labelled as collected on Niihau, and maintained that he had collected on that island. The moths attributed to Niihau were all the same as some of the species which he had collected in the forests of the Kauai plateau. No purpose can be attributed to this apparent falsification of records.

Holotype male in the collection of the Hawaiian Entomological Society. Two males and one female paratypes in the collection of the California Academy of Sciences. This species was discovered by the writer while determining the species in a collection of Kauai moths which the California Academy of Sciences had purchased from Mr. Kusche some years ago.

TORTRICIDAE

Tortrix phyllanthana n. sp.

Male, female.—12–14 mm. Head and thorax light brown, thorax with a greenish tinge. Palpi outwardly light brown, second segment large, widened apically with scales; terminal segment short, fuscous on outer two-thirds. Antennae about $\frac{3}{2}$, simple in both sexes, segmentally barred with fuscous on dorsal surface. Abdomen gray brown, anal tuft ochreous brown. Legs ochreous brown, anterior tibiae and tarsi fuscous brown, the tarsal joints ochreous apically. Forewings brown, with numerous small areas of pale bluish scales having a tendency to be arranged in transverse rows especially on the outer half of wing; a few ochreous scales on the margins of some of these spots; on basal third of costa 4 or 5 ochreous bars, and 2 or 3 more towards apex; in one male a transverse ochreous band before the middle, interrupted at fold and enlarged towards base near costa; this specimen also has more scattered ochreous scales than the others. Cilia brown. Hindwings and cilia uniformly gray brown.

Described from 7 specimens reared from green caterpillars feeding between leaves of *Phyllanthus sandwicensis*, 6 at Malamalama Ridge, Oahu, October 18, 1916, and February 8, 1925, and one specimen Niu Ridge, Oahu, June 27, 1909. Types of this and the following species in the collection of the Hawaiian Entomological Society, Honolulu. This and the following species were all reared by the writer.

GRACILARIADAE

Parectopa naenaeiella n. sp.

Male, female.—9 mm. Antennae one and one-third, pale brownish, basal segment paler and whitish beneath. Palpi whitish, second segment broadly infuscated apically, third segment with slight infuscation near base and near apex. Head whitish, with some ochreous scales posteriorly. Thorax pale brownish. Forewings pale brownish, with three outwardly oblique white streaks from dorsum, all wide at base and narrowing to a point about midway across the wing, the one near base of wing shorter, the second one about at two-fifths of dorsum, the third at two-thirds of dorsum; a slender white streak outwardly oblique from three-fourths of costa terminating a little distad from apex of third dorsal streak, an interrupted band of pale blue scales from there to apex of wing, all of the white streaks margined with a few black or fuscous scales; three white costal spots between base of costal white streak and apex of wing, separated by fuscous scales; costa sometimes narrowly whitish; cilia light fuscous with distinct darker fuscous basal band, with white spots at the costal white spots, dorsal cilia pale gray, very long. Hindwings and cilia uniformly grayish fuscous. Abdomen grayish brown. Legs grayish brown, tarsi white banded.

This is the species for which the name *Gracilaria epibathra* Walsm. has been used heretofore in the Proceedings of the Hawaiian Entomological Society. I began using that name years ago before I had discovered so many related species of this genus of leafminers in Hawaii. The description of *epibathra* by Walsingham in the Fauna Hawaiiensis seemed to fit pretty well, but the figure was different somewhat. However, I was not sure but what possibly there might be enough variation to account for slight discrepancies.

Walsingham's *epibathra* was on a single specimen from Molokai. I have now reared a goodly number of specimens and none is like the figure of *epibathra*, and all are larger as well. Hence, I have considered that it was a new species to be described. I have named it from the native name of *Dubautia*, the plant in whose leaves the larvae are leafminers.

The present species is very close to *Parectopa dubautiella* (Swezey) which mines the leaves of *Dubautia plantaginea*, while our present species mines the leaves of *Dubautia laxa*, a pubescent-leaved species, as well as some other species. The mines differ somewhat, possibly on account of the differently-shaped leaves in which they occur. The mine of *naenaeiella* is more irregular in its course and finally becomes a much larger blotch; whereas, the mine of *dubautiella* is narrower and extends nearly straight, following between the nearly parallel veins of the narrow elongate leaves for two or three loops almost the full length of the leaf. The larvae have slight differences, and the cocoon of *dubautiella* is made within the mine, whereas the larvae of *naenaeiella* often issue to form their white oval cocoons on the surface of the leaf, sometimes on the leaves of adjoining plants. The adult of *naenaeiella* is larger than *dubautiella*, very similar in wing markings, except that it has only one oblique white costal streak, whereas *dubautiella* has two.

The specimens of this moth were all reared from mined leaves, or cocoons found on leaves, from the following places: Mt. Olympus, Oahu, January 21, 1912, and January 30, 1913; Konahuanui, February 22, 1914; Mt. Lanihuli, November 12, 1922; Kahana, September 4, 1927; Mt. Kaala, January 8, 1933; Kawailoa Ridge, October 2, 1934, very abundant on *Dubautia laxa* at all of these places; Pupukea-Kahuku Trail, April 5, 1925, February 15, 1928, reared from mines in the leaves of *Hesperomannia swezeyi*; Kumuwela, Kauai, March 10, 1928, reared from mines in leaves of an unknown plant growing like a mass of vines similar to *Allamanda*, on the bank of a branch of the Kokee stream near the Kumuwela Girl's Camp. From a few fragments of old inflorescence this plant seemed to be a hitherto undetermined or unknown species of *Dubautia*.

Parectopa dubauticola n. sp.

Male, female.—8 mm. Antennae one and one-third, light fuscous, basal fourth whitish beneath. Palpi whitish, second segment broadly infuscated externally at apex, third segment with a few dark scales externally at apex and towards base. Head dirty whitish. Thorax grayish brown, whitish beneath. Forewings brownish fuscous, with a white longitudinal streak in the middle of wing from base to about two-fifths; two dorsal outwardly oblique white streaks extending half way across wing, the first streak at two-fifths of dorsum, the second streak at three-fourths; costa whitish on basal third; two outwardly oblique white streaks on costa, the first at one-half of costa and wider at base (not always distinct), the second at three-fourths slender and of even width terminating in a patch of pale blue scales, a similar patch of blue scales at apex

of wing; remainder of apical portion of wing suffused with ochreous; three white costal spots before apex separated by light fuscous scales. The white streaks are margined with a few fuscous scales. Cilia light fuscous with a distinct dark fuscous band at base, bluish at the apical blue area, and white spotted at the costal white spots. Hindwings uniform light fuscous, cilia paler. Legs light fuscous, tarsi banded with white. Abdomen grayish fuscous, whitish beneath.

Described from three specimens reared from mines in *Dubautia* leaves collected on the ridge above Haelaau, Maui, December 20, 1928.

This species is related to *dubautiella*, but it is a larger insect, and it has two dorsal white streaks instead of three, and the additional longitudinal white streak in basal half of wing.

KEY TO THE SPECIES OF PARECTOPA MINING THE LEAVES OF
SPECIES OF DUBAUTIA

1. Forewing with white longitudinal streak in basal part of wing, two costal and two dorsal oblique white streaks *dubauticola*
- Forewing without white longitudinal streak 2
2. Forewing with two costal and three dorsal oblique white streaks *dubautiella*
- Forewing with one costal and three dorsal oblique white streaks *naenaieiella*

Parectopa lipochaetaella n. sp.

Male, female.—5-6 mm. Head and thorax white. Palpi white, with a black spot externally at apex of second and third segments. Antennae 1, whitish, segmentally barred dorsally with fuscous. Abdomen whitish, anal tuft pale ochreous. Legs whitish, fore and middle tibiae infuscated, and all tarsi barred with fuscous. Forewings pale ochreous much marked with white streaks; three outwardly oblique costal white streaks, three white costal bars near apex, basal half of fold narrowly white, basal half of dorsum widely white, at mid dorsum extending inwardly and outwardly oblique to meet the first costal white streak; at tornus a white area almost connected with the second and third costal white streaks; apical area whitish centered with a patch of pale bluish scales; all white areas with a few marginal fuscous scales; cilia whitish with basal line of fuscous scales and a fuscous line near tips of scales. Hindwings and cilia pale gray.

Described from 12 specimens reared from larvae mining the leaves of *Lipochaeta larvarum* in gulch above Lahaina, Maui, August 28, 1929.

Philodoria wilkesiella n. sp.

Male, female.—7 mm. Antennae one and one-fourth, grayish fuscous. Palpi whitish with a few brownish scales externally. Head white with some brownish scales on face. Thorax white with brownish scales at the sides, whitish beneath. Forewings brownish fuscous with a number of white spots: three on dorsum, the smaller one near base, two larger spots outwardly oblique placed at one-third and three-fifths; a narrow elongate spot at about middle of costa, two or three other white costal spots towards apex, a small transverse white spot at apex and sometimes two or three small spots preceding this in apical area of wing. Cilia gray, dark at base, with a few white scales in vicinity of white spots. Hindwings uniform grayish. Legs grayish, with tarsi banded with whitish. Abdomen gray.

Described from nine specimens reared from mines in leaves of *Wilkesia grayana*. Puu Kukui, Maui, December 20, 1928. This species is not closely related to any other of the known species in Hawaii.

CYGNODIIDAE

***Petrochroa nigrella* n. sp.**

Male, female.—6-7 mm. Antennae uniformly dark fuscous to nearly black, pecten on basal segment distinct. Palpi black, with a few white scales at apex of second segment. Head nearly uniformly dark fuscous or black, the scales very large. Thorax dark fuscous or black. Forewings nearly uniformly black, with a transverse white band at three-fourths from base, in some specimens a nearly complete transverse white band about middle of wing varying to a mere spot on costa, sometimes a few white scales on costa at about one-fourth; cilia dark fuscous. Hindwings and cilia uniformly grayish fuscous. Legs fuscous, mid tibiae with white bands at middle and apex, tibial spurs pale, tarsi banded with white. Abdomen light fuscous.

Described from five specimens captured on low vegetation about broken lava rocks along the Mauna Loa trail in the vicinity of the "giant koa" tree, about five miles from the Volcano House, Kilauea, Hawaii, July 4, 1934. It is very similar to *Petrochroa swezeyi*, but much darker in color, especially the head, antennae and palpi being nearly black, whereas they are ochreous in *swezeyi*. No doubt it has similar habits to *swezeyi* whose larvae are in cases on rocks, but no larval cases were found.