

Mr. Schwarz said, commenting on Müller's statement that bees do not visit white flowers, that Müller was not speaking of food flowers at the time, but what he calls bee flowers.

Mr. Howard thought that Prof. Riley's experiments, confining bees with *Yucca* which they did not touch, were conclusive.

Mr. Smith said that the habits of an insect in one locality are not necessarily the same as in another. Both Mr. Hulst and Prof. Cook had seen bees on *Yucca*. On Long Island he had found *Lachnosterna* in great abundance on blackberry blossoms. Mr. Townsend had found them in Michigan with similar habits. He had this season failed to find a single specimen on the flowers near Washington, though there were plenty of beetles all around.

Prof. Riley reasserted the similar fact regarding bees, which were often very capricious, but showed that, where they do visit the *Yucca* flowers, they have nothing to do with fertilizing them, and, even in artificial pollination by man, perfect fruit can only be obtained when the pollination is done as fully and carefully as it is done by *Pronuba*.

Prof. Riley read the following paper :

TWO BRILLIANT AND INTERESTING MICRO-LEPIDOPTERA NEW TO OUR
FAUNA.

By C. V. RILEY.

I have had for some time, as a part of the material which I have turned over to the National Museum, two small moths of exceptional brilliancy and beauty, which are new to our fauna and which I took occasion to study while in Europe last autumn. As a rule, I do not care to present isolated descriptions of species, but in both these instances there are special reasons for departing from this rule, as the first is one of the largest and prettiest of the Tineina, having a superficial Tortricid habitus, and the second is interesting as belonging to a small group essentially exotic, which has been placed by authors both in the Tineidæ and the Tortricidæ, and which virtually is a somewhat interesting form belonging rather to the lower Noctuidæ. I name them in honor of two of our most capable and most worthy micro-lepidopterists, and in each case with permission.

SETIOSTOMA FERNALDELLA n. sp.—Expanse, 12-13 mm. General colors, vivid pea-green, yellow, and metallic bronze. *Head*, vivid pea-green, approaching in some instances to olivaceous; face and palpi paler, more yellowish. *Thorax* of the same vivid green, somewhat more yellowish on the borders, but especially on the collar, which is separated from the mesothorax by a fine black suture. Primaries of the same vivid green at basal third, posteriorly limited by a straight line which slightly obliquely outwardly

toward the inner border; along the costa is a dark, somewhat lunate dash or streak, reaching the base of the wing, but not the posterior limit of the green space; on the inner base there is also more or less black; along the margins of the black the green becomes more yellowish, and in some instances is bright sulphur-yellow; beyond this basal green space the ornamentation is difficult to describe, consisting of dark metallic hues, changing from bronze to violet in varying lights. A perfect unspread specimen, screened from side lights, appears bright metallic bronze, with a purplish gloss interrupted by two sinuate transverse bands of a darker shade of brown, almost black: the first of these consists of two patches or tufts of raised scales, truncate posteriorly; the second band is sinuate, the scales are less raised, and form no distinct tufts: a dusky spot at apex, and another at anal angle; between the dark bands there is an almost white costal spot, shading imperceptibly into the bronze of the rest of the space. In a reflected light the ordinary appearance of the wings shows, between these dark bands and the dark posterior border, three distinct coincident bands of the most brilliant metallic gold and lilac; the first corresponding to the posterior limit of the green; the second more irregular, and across the second third of wing; and the third elbowing near apex and coincident with hind border. In most specimens, along the median of these metallic bands, the wing is more or less whitish, particularly at costa, while there is also more or less white on the costa just inside the third or posterior metallic band. Secondaries bronzy-black, with less lustre than the primaries, and with distinct whitish fringe. Beneath both wings are brownish-black, glistening, the primaries with an indefinite and incomplete whitish line along posterior border, and two paler costal spots, corresponding to those on upper surface, more or less fully indicated; the secondaries with tips of fringes only, whitish. Legs bronzy-black, the front coxæ white or yellowish; front tarsi ringed with white; spurs of middle tibiæ white, with a few dusky scales, and middle tarsi ringed with white; posterior tibiæ with white annulus and white tip, and with the spurs white, with two white annuli. *Abdomen* bronzy-black, with metallic iridescence; the ovipositor of the female pale, lance-shaped, and usually extruded beyond the tip; the basal segment above with the margins usually flaked with white, and tending to form a distinct white annulus.

Described from 12 specimens.

Hab., Los Angeles Co., Cal.

Differs at once from *S. xanthobasis* Zeller by the fine green color of the basal space, the maculation of the remainder of the wing being lighter and more distinct throughout.

From *chlorobasis* Zeller it differs in the costal maculation of the green basal space, as well as in the whitish costal spots, which seem to be entirely wanting in the Brazilian species. From both the prominent raised scales will serve as a distinguishing feature.

I first met with this interesting little species upon my trip to Los Angeles in the spring of 1887, Mr. Coquillett having obtained a number of speci-

mens, and Mr. Koebele having reared it from larvæ feeding between the leaves of *Quercus agrifolia*.

This genus was described by Zeller in 1875 (Verh. z. b. Ges., Wien., vol. xxv, p. 324), and referred to the *Choreutinae* as a close ally of *Simæthis*, but only two species were described, those with which I have compared it. His generic characterization is imperfect from lack of material, but I will give a more full characterization at some future time.

Named after our well-known micro-lepidopterist, Prof. C. H. Fernald.

WALSINGHAMIA, Gen. nov.—*Head* distinct, somewhat protuberant between the eyes, but not tuberculate or mucronate; ocelli distinct, large; palpi slender, reaching to about the middle of front; terminal joint scarcely more than half as long as second, slender, with a pointed tip; no maxillary palpi; tongue moderate; antennæ for about half their length thickly clothed with scales above; beyond this the joints are well marked, and mobility seems practically confined to this part of the antenna; a broad white ring just above the thickened part, otherwise black, basally marked with ferruginous scales above. *Thorax* smooth and well rounded at shoulders; legs stout, rather short, densely clothed with scales, the tarsi most distinctly so, the segmentation so obscured that they seem four-jointed; tarsal claws very minute and simple; median tibia two-spurred, posterior with both median and terminal spurs of good length, the former rather more, the latter less, than one-third the length of the tibia. *Wings* rather large; primaries with costa distinctly arched toward apex, which is somewhat acute; posterior border oblique to the obtusely rounded anal angle; 12-veined; dorsal vein furcate basally; costal vein (12) strong, from base to costa beyond the middle; 11 from subcostal about one-third from base to costa; subcostal from base to end of cell, and continued thence unbroken to costa—rather within half its entire length it forms a slight angle, giving rise to a faint vein running to the cross-vein and forming a large accessory cell; cross-vein distinct between veins 9 and 10 (which are widely separated); 9 to costa near apex, forming a series of faint curves between veins 4 and 9; 5 to 8, inclusive, decidedly weaker than the other veins; 8 from cross-vein to apex, equidistant between 7 and 9, which are not farther apart at base than 5 and 6; 7 continuing from the faint vein closing the accessory cell to the hind margin below apex; 5 from cross-vein, nearly midway between 4 and 6—nearer the former—to the hind margin; 3 and 4 from the end of the median, and rather close together; 2 from the median, about $\frac{2}{3}$ from base, to outer margin; 1 (dorsal vein) from base to anal angle. Secondaries with veins 5 to 7, as well as the subcostal, much weaker than the others; costal vein free from base to costa near apex; three dorsal veins, the intermediate (1 *b*) distinctly furcate basally; median giving off 2 close to the end of the cell and continuing beyond, giving off 3 and 4 on a stalk, half way to the hind margin; 5 from the cross-vein about midway between 4 and 6; 6 from the cross-vein nearer to 7 than 5; 7 continuing the subcostal from the end of cell to the apex; a faint longitudinal vein divides the cell and terminates on the cross-vein between 5

and 6. *Abdomen* with no unusual character. No secondary sexual differences of importance, the antennæ only being somewhat more thickly clothed in the male.

Named after Thomas, Lord Walsingham.

This genus finds its nearest ally in *Choregia* Zeller (Felder); referred to the Tineidæ by Felder. The venation and other structure seem to agree more nearly with the Tortricidæ, both in this genus and in *Choregia*, the vein 1 *b* of secondaries being furcate at base, though the forks are indistinct, the vein becoming well marked only below the forks. The weakness of the sub-costal and its derivatives is very well marked in both genera, and there is a very faint branch between the subcostal and costal near the base.

The habitus of this genus would place it nearer to *Mictopsychia*, but that genus has but two internal veins to secondaries, while the distribution of the veins of primaries indicates a location much higher in the scale, and is hardly Tortricid.

Choregia has similar antennæ, but in the male they are ciliated beneath; the front is not produced or conic, but is flat, and the head therefore shorter; the palpi are longer, much stouter, not curved upward; the legs are longer and more slender, the tarsal joints distinctly marked; the primaries are narrower, subequal, and longer, the posterior border less oblique. The venation, while of the same type, presents several differences of generic importance: veins 7 to 10 are from the rounded apex of the cell, 10 not as the continuation of the subcostal, and much nearer to 9 than in the new genus. There is no accessory cell, and veins 3-5 are equidistant instead of 5 almost equidistant between 4 and 6.

Walsinghamia belongs to a distinctively South American type, and will probably be associated, having similar antennæ, with *Gauris* Walker and *Rhobonda* Walker—the species being principally from Brazil.

WALSINGHAMIA DIVA n. sp.—Expanse 16 mm. General colors, brilliant metallic blue and purple, and non-metallic orange-red. *Head*, bright rusty-red above; front yellow; palpi pale yellow, tipped with blackish. *Thorax* a leaden, somewhat metallic blackish-gray, with yellow scales at sides of scutellum. Primaries metallic purple at basal third, to a distinct transverse golden-yellow band which obliques posteriorly but very little, and is narrowly margined each side by a row of black scales: beyond this the purple assumes deeper violet and steel-blue hues through the middle portion of the wing, giving way to a metallic, deep greenish gloss, which extends to a strongly curved cream-yellow streak, which starts broadly and obliquely from the costa at $\frac{3}{8}$ from base, is suddenly narrowed and posteriorly bent on the cell, then runs nearly to the apex, where it again curves almost at right angles and runs parallel to the posterior margin, rapidly narrowing, and lost about $\frac{1}{4}$ from anal angle: beyond this yellow streak a deep rust-red band runs as a margin around the apex and along hind border to anal angle; between the two streaks the deep violet-purple scales form a narrow band, widest along costa: fringes leaden-black, with a black

line at base. Secondaries deep orange-red, with a blackish submarginal cloud near apex; fringes as on primaries: beneath, secondaries as above; primaries leaden-gray, with marginal reddish streak reproduced, but in paler shade; the yellow streak of upper side also indicated on costa in the same color, and a central, longitudinal reddish cloud. Legs with the femora and tibiæ pale beneath, dark above, the hind tibiæ with golden-yellow scales above, and with a dark terminal annulus; tarsi inclining to golden-yellow, with one dark annulus about basal third, and tips also dark. *Abdomen* of the same leaden black, banded with rather a dull gamboge or golden yellow; anal tuftings more distinctly marked with this last color.

Described from 3 specimens collected by Mr. E. A. Schwarz at Coconut Grove, Fla., in May, 1887. The larva skeletonizes the leaves of a wild species of *Ficus*, presumably *F. pedunculata*, and makes an even, fine web.

Prof. Riley read a short note calling attention to an error in the published Minutes of the Am. Philos. Soc. regarding the date of the first appearance of the "Hessian Fly." He found on hunting up the Minutes that the term "Hessian Fly" does not occur in them at all until 1791, long after the Revolution; that the passages relied on by Dr. Hagen to prove its presence in America before the Hessians arrived mention the "Fly in Wheat," "the Fly," or "the Fly-weevil," which refer to *Sitophilus oryzae* *S. granarius*, or *Gelechia cerealella*. Dr. Hagen's argument based on the erroneous quotations therefore fails.*

Messrs. Howard, Schwarz, and Smith made some remarks on this subject.

Mr. Howard read a description of an interesting new parasite which he proposed to call *Rileyia splendens*.†

Prof. Riley thinks that many of the Chalcids use the antennæ as tactile organs.

Mr. Schwarz described the methods of attack of a *Tachina*, pursuing like a hawk a specimen of *Ammophila*.

Prof. Riley described the methods of attack of Tachinids on locusts, and the efforts of the locusts to get away.

Mr. Howard told how Chalcids attack leaf-mining larvæ.

Mr. Schwarz read a paper on the oviposition of *Eumæus atala* as observed by him during the month of May at Biscayne Bay, Fla.‡

* See *Can. Ent.*, vol xx, No. 7, 1888, pp. 121-127.

† This paper has since been published in full in *Canadian Entomologist*, vol. xx, No. 10 (Oct., 1888), pp. 192-195.

‡ See "Insect Life," vol. i, No. 2, 1888, pp. 37-40.