NEW SPECIES OF NOCTUIDÆ FOR 1906.

No. 2.*

BY JOHN B. SMITH, SC. D., NEW BRUNSWICK, N. J.

Cyathissa quadrate, n. sp.—Ground colour creamy-white, more or less washed with luteous, the maculation black, contrasting. In type it is like that of *percara*, and the lines are identical in course; there is the same basal dash, and the quadrate pale blotch on the costa in median space is very similar. But there is no green shading whatever in the wing, the black markings are more intense, more contrasting, usually broader, and, in the median space, they extend below the costal pale area, shading into smoky-brown at about the middle of the wing. There is also a costal black patch just beyond the t. p. line, which is not present in the older species. The secondaries have the dark median band and dusky outer border well defined, whereas in *percara* these are entirely absent or only indicated. Beneath, the body is deep sooty-black, with the legs contrastingly white-marked.

Size as in *percara*.

Habitat.—San Bernardino Ranch, Cochise Co., Arizona; 3,750 feet; in August. F. H. Snow.

One male and two females in good condition. This species bears almost the same relation to *percara* that *ochracea* does to *pallida*, and the replacement of the green by luteous will serve to distinguish them, as well as the heavier and more extensive black markings. There is no question of discoloration of green, such as is sometimes seen in *percara*.

Cyathissa ochracea, n. sp.—White with a slight creamy tinge. Disc of thorax with ochraceous scales in some specimens. Primaries, basal space white, shaded with ochreous along the inner margin, two black dots on costa. The median space is defined by broken, irregular, narrow black lines, is ochraceous, fading out to white on the inner margin, and with a large quadrate white blotch on costa; this with sharply-defined black-edged margins. Beyond the t. p. line on the inner margin is a large blackish blotch, which does not quite reach the inner angle. Elsewhere the space beyond t. p. line is rather irregularly shaded with ochreous. Secondaries white, tending to a dusky shading toward anal angle. Beneath white; primaries with maculation of upper side faintly reproduced; secondaries with a narrow extra-median line and a small discal spot.

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July, 1906

Expands: .75-.90 inches = 19-22 mm.

Habitat.—Baboquivaria Mts., Pima Co., Arizona, July 15. O. C. Poling.

One male and three females in good condition. The maculation is like *percara*, but the green is replaced by ochreous, and there is no longitudinal mark at base. The ochreous shade is not a discoloration.

Cerma marina, n. sp.—Ground colour dark, brownish-gray, with black powderings, which, on the primaries, are reinforced by amethystine scales in all the lighter areas. Head and thorax with gray-tipped scales, disc of patagia with greenish admixture. Primaries so powdery as to obscure the ordinary maculation; but in general the median space is darker than the rest of the wing, and the claviform and space between reniform and orbicular are darker still and nearly blackish. Basal line gray with black scale edges, extending across the cell. T. a. line gray, outwardly oblique, broken, irregularly sinuate, outwardly marked by black scales. T. p. line outcurved over cell and incurved below, irregularly denticulate, outwardly pale shaded. A broad but rather indefinite median shade band crosses between the ordinary spots and darkens the outer part of the median space. S. t. line pale, punctiform, irregular. A series of black terminal lunules and fringes cut with gray. Claviform clouded with blackish, of moderate size. Orbicular large, round, incompletely defined, marked by green scales. Reniform large, upright, centrally constricted, incompletely defined, marked by greenish scales. Secondaries dirty-gray or whitish, fringes darker, an incomplete submarginal line toward anal angle. Beneath smoky, paler toward base, a common extra-median darker line and the inception of a median band on costa of all wings.

Expands: 1.00-1.05 inches = 25-26 mm.

Habitat.—So. Arizona, Poling; Santa Catalina Mts., Pinal County, Arizona, Dr. Barnes.

One male and one female. The species is darker and more obscurely marked than any of those previously described, except *galva*, Strck. The latter is from New York and lacks all green, recalling *olivacea*.

Setagrotis dolens, n. sp.—Ground colour somewhat bluish ashen-gray. Head and thorax concolorous, vestiture hair and elongate flattened scales. Abdomen a little more yellowish. Primaries with a tendency to a brownish shading outwardly. Basal line a dark dot on costa and median vein. T. a. line single, nearly upright, a little outcurved in the interspaces. T. p. line single crenulate, obscure or altogether lost, somewhat

acutely bent on costa and even below. An obvious smoky median shade is oblique from costa over reniform and darkens the outer part of median space. S. t. line pale, broken, very even, accompanied by a somewhat rufous smoky shade. A series of small terminal lunules. Fringes a little rufous. No claviform. Orbicular concolorous, round when visible, indicated by orange scales. Reniform darkened by median shade, and more or less edged with orange scales. Secondaries in the male gray; in the female smoky-yellowish, in all with a discal lunule. Beneath, primaries gray, with an incomplete smoky outer band. Secondaries whitish, powdery, with a round discal spot and an incomplete punctiform outer band.

Expands: 1.35-1.60 inches = 34-40 mm.

Habitat.—Arrowhead Lake, British Columbia, June 8-15; Beulah, Manitoba, Aug. 28.

One male and two females in good condition in Dr. Barnes's and my own collection. The species is allied to *Quebecensis*, and like that resembles a *Carneades* (*Euxoa*) of the *Bostoniensis* type. It differs from the eastern species in the less obvious maculation and in the outward rufous shadings. There is quite a bit of variation indicated since the male has nothing except the reniform and median band that is at all obvious.

Euxoa esta, n. sp.—Head, thorax and primaries smoky black, with minute yellow powderings. Collar with a deeper velvety-black median line, dorsal tuftings of thorax and edges of patagia with some white scales. Primaries with all the maculation obscured, yet most of it traceable on good specimens. Usually the median lines are traceable by yellow atoms more or less black-edged each side, the t. p. being most obvious. S. t. line punctiform, also marked by yellow atoms and velvety-black defining scales. There is a very narrow pale line at base of fringes. At base is a black longitudinal mark. Claviform narrow, black-margined, sometimes with yellow atoms, extends not quite to centre of median space. Orbicular moderate in size, round or oval, concolorous, ringed by black and yellow scales. Reniform kidney-shaped, moderate in size, with a ring of yellow scales margined by black. Secondaries in male yellowish-white at base, becoming smoky outwardly; in female smoky throughout, but paler basally; the tendency is to a smoky discal spot. Beneath, primaries whitish to extra median line, smoky and powdery beyond; secondaries

whitish, outer marginal region powdery ; a small discal spot and a distinct outer transverse diffuse line or band.

Expands : 1.30-1.48 inches = 32-36 mm.

Habitat.—Wellington, British Columbia, July 30, Aug. 14 and Sept.

13. Theodore Bryant.

One male and three females, all in good condition, two of them from Dr. Barnes's collection, two from my own. This is allied to *velleripennis*, which I have from the same locality, but is not so black, and the vestiture is somewhat more roughened. The type of maculation is much the same, but in the old species there is no yellow powdering. *Punctigera*, which is also allied, is a smoother species, in which there is a brownish tinge, and the yellow margins to the ordinary spots are broader, not made up of elevated individual scales.

Hadena bulgata, n. sp.—Ground colour a reddish luteous, powdered and overlaid by a darker, more brownish colour, in which there is a vague rosy or coppery tinge. Head and collar concolorous, somewhat deeper in shade, collar and patagia well marked, but not up-lifted, dorsal tuftings small. Primaries with all the usual maculation obvious, but variably distinct, never contrasting. Basal line single, narrow, irregular, outwardly oblique. T. a. line single, irregular, as a whole a little outcurved, tending to obsolescence, sometimes with a paler preceding shade. Median shade line a little smoky, outwardly oblique through the bottom of reniform, then forming almost a right angle, evenly oblique to the inner margin. T. p. line smoky, single, almost crenulate, outwardly bent over cell and evenly oblique below. S. t. line of the pale ground, a little sinuate, feebly defined. A series of dusky terminal lunules, beyond which is a yellow line at the base of the fringes. Claviform of good size, broad, reaching the median shade, concolorous, outlined in coppery red-brown. Orbicular round or nearly so, moderate in size, outline and centre a little darker than ground. Reniform large, a little constricted, darkened by the median shade. Secondaries smoky-yellowish with a glistening surface, a vague smoky discal spot and extra median line. Beneath yellowish, with a smoky exterior line and discal spot on all wings.

Expanse : 1.40-1.50 inches = 35-38 mm.

Habitat.—Glenwood Springs, Colorado, end of June and early July. Dr. Barnes.

Two males and two females in fair condition. The species is unlike the usual type of *Hadena*, but is an ally of that series in which the secondaries are slightly excavated below the apex. The range of variation is in the greater or less powdering which may reach a point making it difficult to distinguish the markings.

Mamestra tuana, n. sp.—Ground colour dull, smoky-brown, powdery. Head and collar somewhat paler, crossed by darker transverse lines. Tips of collar and thoracic tuftings paler. Primaries with all the maculation complete, not contrasting. Basal line yellowish-brown, margined with black, lunate, and interrupting a thick, diffuse basal black streak. T. a. line geminate, outer portion black, inner brown, included space lighter brown, outwardly oblique and outcurved between the veins. T. p. line geminate on costa, outer portion lost over cell, inner black, oblique to the cell, then forming a distinct obtuse angle evenly to the inner margin. Beyond the t. p. line the wing is paler to the narrow, sinuate s. t. line, which is of the ground colour, usually followed and sometimes preceded by black marks. A slender black terminal line followed by a yellowish line at base of fringes, from which the fringes are cut interspaceally, the yellow being interrupted by a brown interline. There is a somewhat obscure median shade line, which is oblique over the reniform and runs close to the t. p. line below the cell. Claviform concolorous, distinctly black-ringed, short and broad, sometimes with a dusky shading across the cell. Orbicular of good size, round or obliquely oval, a little paler, incompletely black-ringed. Reniform upright, of good size, broadly oval, a little darker than ground, obscurely black-ringed, the outer border margined with white, forming the only conspicuous feature in the wing. Secondaries smoky-fuscous, a little paler at base, fringes with a yellow line at base. Beneath smoky, powdery, with a well-defined common extra median line and a well-marked discal spot on secondaries.

Expands: 1.15–1.32 inches = 29–33 mm.

Habitat.—Huachuca Mts., Arizona.

Three males and eight females, in fair condition, all of them from Dr. Barnes, and all without date. The species is rather a well-marked one, between *noverca* and *Goodelli*, with the wing form of the latter rather than the former. The little touch of white on the reniform lightens up the wings materially.

Mamestra sareta, n. sp.—Ground colour bluish ash-gray, head and thorax somewhat powdery. Front crossed by a black transverse line

below antenna. Collar with a black median line; patagia with a black submargin. Thoracic and abdominal tuftings well marked. Primaries with a yellowish or brownish shading in the median cell above the claviform, sometimes confined to the reniform only. Basal space paler gray costally, the area limited inferiorly by a somewhat irregular black streak, which extends almost to the t. a. line. T. a. line outwardly oblique, outcurved, reaching the inner margin at or just before its middle, even, geminate, outer part black, slender; inner smoky-gray, obscure. T. p. line rather even, geminate, mostly lost over the cell, with a sharp, well-defined incurve in the submedian interspace, where it is black and preceded by a white lunule. S. t. line punctiform, irregular, variably marked by irregular preceding dashes and following shades, best marked by a whitish lunule opposite hind angle. A lunate black terminal line, followed by a slender yellowish line at the base of the fringes, which are cut with black and gray. Claviform narrow, pointed, extending across the cell, accompanied by a black shading that forms a more or less conspicuous bar. Beyond the t. p. line the dusky shading is continued through the interspace, cut by the lunule of the s. t. line. Orbicular narrow, oblique, elongate, usually open to costa, black-ringed and usually a little paler than ground. Reniform large, oval, a little drawn in centrally from the outer side, somewhat oblique, black-ringed, more or less shaded with yellowish or brownish. Secondaries white in the male, with a mere trace of blackish edging, whitish in the female, becoming smoky outwardly. Beneath whitish, primaries smoky on disc; secondaries with a trace of a punctiform outer line and discal spot.

Expands: 1.00–1.12 inches = 25–28 mm.

Habitat.—Arizona; Huachuca Mts., May 8–15; Wilgus, Cochise Co.; Gila Co., May 14 and June; Minnehaha, Yavapai Co., Aug. 20 and Oct. 2–5.

Nine males and four females from Dr. Barnes, seven males and ten females from Mr. Hutson. The species resembles *vicina* in general appearance, and some of the larger examples might, if alone, be readily referred to that species; but with the series at hand, the smaller size, brighter blue-gray colour and clear white secondaries of the male stand out conspicuously and make for an easy recognition of the species.

Orthodea gigas, n. sp.—Ground colour a rather bright brownish-red over luteous, the markings smoky. Head and thorax concolorous, collar and patagia marked, a small dorsal tuft obvious anteriorly. Primaries

without strong contrasts, more or less powdery and dotted, all the maculation traceable. Basal line geminate, smoky, somewhat diffuse, a little outcurved. T. a. line geminate, broken, the two portions not entirely parallel, a little oblique outwardly and somewhat outcurved in the interspaces. T. p. line often broken, the inner more or less lunulate or crenulate, outer more or less punctiform, as a whole rather abruptly bent opposite upper end of cell, and then almost evenly oblique to the margin. In some specimens a supplemental series of dusky and yellow venular dots crosses the s. t. space. Median shade broad, almost the darkest part of the wing, oblique from costa between ordinary spots, then parallel with and close to the t. p. line. S. t. line punctiform, yellowish, preceded by a dusky shade, which really marks the line, and this dusky shading sometimes extends beyond, into the terminal space. Sometimes only the veins are darkened and there is a checkered appearance. A series of small dusky lunules is at the base of the fringes which have a dusky interline. Claviform absent. Orbicular round or oval, not well defined, concolorous. Reniform moderate in size, kidney-shaped, incompletely defined, usually a little gray-powdered. Secondaries dark smoky with yellow fringes. Beneath smoky, varying in shade, with a distinct extra median, and less marked s. t. common transverse lines, and on the secondaries a distinct dark discal spot.

Expands: 1.40-1.60 inches = 35-40 mm.

Habitat.—Southern Arizona, Poling; Huachuca, Arizona; Santa Catalina Mts., Pinal Co., Arizona, Aug. 26-30.

Three males and three females in good to fair condition, all from Dr. Barnes. The species is altogether unlike any of our previously-described forms, and was at first sight associated with *Pronoctua*, as probably a form of *phyllophora*. It belongs in that section of *Eriopyga*, as used by Hampson, in which the front is unmodified, anterior tibiae are unarmed, abdomen not tufted, vestiture of thorax scaly hair, male antennae ciliate, femora clothed with thin hair, and cell of male with long fine decumbent hair.

Himella flosca, n. sp.—Ground colour a mottled-dull smoky-gray, in which all the maculation is obscured. Front of head tending to become a little paler; collar pale-tipped. Primaries so mottled and the usual lines so broken and little contrasting that it is difficult to trace them. The geminate basal line is usually well enough marked. T. a. line seems almost evenly oblique outwardly; but is with difficulty followed out. T. p.

line a little outcurved over cell and even less incurved below, almost entirely lost. S. t. line yellowish, almost evenly parallel with the outer margin, sometimes emphasized a little by darker preceding scales, and this is the best marked line on the wing. No claviform. Orbicular round or nearly so, small or moderate in size, somewhat paler-ringed. Reniform of good size, upright, centrally a little constricted, incompletely pale-ringed, with a tendency to a few white scales at the lower outer angle. Secondaries smoky in both sexes, rather darker in the male. Beneath smoky, more or less powdery, secondaries paler, both wings with variable outer lines and discal spots.

Expands: 1.06–1.20 inches = 26–30 mm.

Habitat.—Huachuca Mts., Arizona. Dr. Barnes.

Six males and two females in fair to good condition. An undersized female from Wilgus, Cochise Co., may belong here, but offers some points of difference that make it doubtful. The species looks more like an *Orthodes*, but has only a slight covering of silky hair in the cell on the under side, and the wing-form and general habitus is not unlike *contrahens*.

Teniocampa fractura, n. sp.—Ground colour a pale reddish luteous. Head and thorax immaculate. Primaries with all the lines broken, but easily traceable. Basal line geminate, smoky, marked on the costa and through the cell. T. a. line geminate, nearly upright, outer line sometimes nearly complete. T. p. line almost parallel with outer margin, punctiform, geminate, outer series incomplete, dots of inner series closely placed. S. t. line pale, preceded by a dusky shading, only a little irregular. A series of obscure terminal dots and a yellow line at base of fringes. No claviform. Orbicular round, concolorous, incompletely outlined by blackish scales. Reniform barely traceable, large, upright, concolorous, indicated by scattered scales. Secondaries dull, very pale, smoky-yellowish, scarcely darker in the male. Beneath with a reddish tinge, secondaries paler, with a variably marked outer line, incomplete on secondaries, and on the latter a small discal spot.

Expands: 1.08–1.12 inches = 27–28 mm.

Habitat.—Huachuca Mts., Arizona. Dr. Barnes.

Four males and two females in fair condition. The species by its simple male antennæ and general appearance is allied to *peredia* and *furfurata*, but is more simply marked and somewhat broader-winged.

Teniocampa indra, n. sp.—Ground colour luteous, in the female tending to smoky-brown. Head and thorax without markings. Primaries with basal and median lines geminate; in the male more or less obviously defined by smoky or blackish scales, in the females better marked by the pale filling, which in the male is concolorous; the darker the wing, the better the pale stands out. Basal line a little outcurved, extending to submedian vein. T. a. line outwardly oblique, a little curved and a little outcurved in the interspaces. T. p. line abruptly bent on the subcosta, then a little sinuate, but on the whole nearly parallel to outer margin; the outer portion of line is punctiform, and occasionally, when the dark shading extends inward, the entire line appears crenulate. An obscure, diffuse median shade over reniform, and below it close to the outer line. S. t. line of the pale ground, relieved by dark preceding shades or powderings, a little irregular, reaching the margin at or just within the inner angle. A series of small blackish terminal lunules and a yellow line at base of fringes. Orbicular somewhat irregular, moderate in size, concolorous, scarcely relieved by yellowish scales. Reniform of good size, broad, kidney-shaped, or a little constricted, ringed with yellowish and dusky filled; secondaries smoky, paler at base, and altogether paler in the male. Beneath powdery, primaries smoky on disc, with a crenulated outer line; secondaries paler, with an incomplete outer line and a discal spot.

Expands: 1.10–1.30 inches = 27–32 mm.

Habitat.—Arizona: Minnehaha, Yavapai Co., Sept. 26 to Oct. 3; Huachuca Mts., Chiricahua Mts., Wilgus, Cochise Co.; Tonto Basin, Gila Co.

Eighteen males and twenty-four females, of which all save nine were sent in by Mr. Hutson, and the remainder came through Dr. Barnes. The species is allied to *oviduca* and *Utahensis*, differing from the eastern form by its larger size and less stumpy primaries, in addition to differences of maculation, and from the western in the distinct s. t. line, completely filled reniform and altogether more powdery appearance.

Perigonica punctilinea, n. sp.—Ground colour a creamy-gray, tending to luteous, more or less powdered with black or brown atoms. Head and thorax immaculate. Primaries ranging from almost uniform powdery to a fairly well-marked form, in which all the ordinary maculation is traceable. Basal line single, upright, punctiform, marked on the veins only. T. a.

line single, upright or a little curved, punctiform, marked by dots on the veins and by powdery atoms in the interspaces. T. p. well removed outwardly, best marked on the costa, then with an abrupt outward bend over cell, evenly curved toward the inner margin, punctiform on the veins as usual. The median shade is marked by an outwardly oblique trigonate blotch, the point of which reaches the bottom of the reniform, and below this the shade is inwardly oblique, diffuse, and tends to become obsolete. S. t. line marked on costa by a dusky triangular preceding blotch and, below that point, partly by a narrow yellowish line and partly by preceding or following powderings. A punctiform line at the base of the fringes. Orbicular wanting. Reniform narrow, upright, dark-filled and forming the most persistent of the markings, traceable in all specimens. Secondaries smoky with paler fringes. Beneath, powdery, with a punctiform outer line and a discal spot on all wings.

Expands : 1.26-1.40 inches = 32-35 mm.

Habitat.—Southern Arizona, April 15-30. Poling.

Two males and five females in fair to poor condition. This species has less conspicuously angulated and pointed primaries than any other of the genus, and approaches *Taniocampa pectinata* somewhat in habitus. The general appearance and the type of maculation suggest *Perigonica*, however, and for the present I consider the reference to that genus warranted.

Lythrodus minutissima, n. sp.—Head white in front. Thorax dull ochreous, with disc and patagia obscurely white-lined. Primaries pale creamy-yellowish, interspaces marked with ochreous to or a little beyond the middle, and from that point the veins are white-marked, the line extending through and cutting the fringes. Secondaries whitish. Beneath, primaries pale smoky-yellowish, secondaries white.

Expands : .56 inch = 14 mm.

Habitat.—Yavapai Co., Arizona, May 21, 30, 31. Hutson.

Three male examples in good condition. This, while not the smallest in expanse, is the slightest of the Heliothids known to me, and is almost Pyralidiform in appearance. The darkening by the ochreous interspaces through the centre of the wing is characteristic.

Campometra protea, n. sp.—Ground colour dull yellowish-brown, overlaid by darker or lighter scales, ornamentation dark brown or black. Head usually darker brown. Collar with a broad brown band across the middle, or the lower half of the collar is dark. Thoracic disc, including

patagia, crossed by alternate pale and dark bands, the contrasts varying. Abdominal rings narrowly dark banded. Primaries, basal line single, black, accompanied by a pale shade line, extends obliquely inward across the costal area. T. a. line broken near the centre, dislocated, forming rather a band than a line, and this band may be black or brown, or brown with black margins. The median line is black, narrow, a little irregular and somewhat curved, and this usually marks the division between the paler basal third of the wing and the darker outer half of the median space. T. p. line single, black, irregular, well and somewhat acutely curved over the cell, reaching the inner margin a little beyond the middle. S. t. line pale, irregular, forming a somewhat well-defined jog below the apex, preceded by dusky or black shadings. A lunate or almost scalloped terminal black line followed by pale or yellowish venular marks and a dusky interline on the paler fringes. The orbicular is a black point, which may or may not be obvious. The reniform is an irregular, nearly upright, black line, beyond which is a diffuse whitish or pale shading. Secondaries with basal two-thirds of a somewhat paler ground than primaries, crossed by more or less obvious brown or blackish lines to a distinct narrow black line, which borders a dusky band that is outwardly limited by the black, pale bordered s. t. line. Terminal line and fringes as in primaries. Beneath an even, dull, deep smoky-brown, with a common darker extra median line, within which are three less obvious similar lines, and a discal spot on all wings.

Expands: 1.20-1.48 inches = 30-37 mm.

Habitat.—Yavapai Co., Arizona, May 21-31. Hutson. Babaquivera Mts., Pima Co., Arizona, in September. Poling. Readington, Arizona. Dr. Barnes.

A series of over 50 examples is before me at present, and I have had nearly as many more for comparison, all from the same general faunal region. No two examples are entirely alike, and the above description applies to a form in which all the normal markings are well defined. In the actual course of the lines there is little real variation; but in the amount of contrast between the spaces there is much. The basal and terminal spaces may be bluish-powdered; the outer half of the median space may be contrastingly dark, or it may be scarcely shaded; the whitish shade beyond reniform may be scarcely noticeable, or it may extend to the costa and form a large quadrate blotch. As a general thing the males are the smaller, although the largest males exceed the smaller females.

I suspected when I first received this large lot of specimens that it might be one of the Central American species, and sent examples to Sir George F. Hampson for comparison. He assures me that the species is not represented in the British Museum collections, and as it fits no description known to me I assume that it is new.

Campometra paresa, n. sp.—Head and collar deep, almost blackish-brown. Disc of thorax, including patagia, whitish, more or less powdered with brown scales. Abdomen deep brown, incisures narrowly black-ringed. Primaries with a broad whitish costal area, starting from the entire width of the wing at base, narrowing gradually to before the s. t. line, where it is abruptly terminated; terminal space beyond s. t. line also whitish, interrupted by a dusky cloud at about its middle. The intervening triangle is deep, blackish-brown. The costal pale space may be without obvious marks except costal dots at inception of usual lines, or it may be crossed more or less obviously by the basal line, which is narrow and inwardly oblique; by the t. a line, which is broken, dislocated and fasciform; by the median line, which is narrow and linear; and by the t. p. line, which is black and outwardly oblique. An extension of the median dark triangle reaches the apex and dilutes the pale terminal space at that point. S. t. line pale, outwardly shaded by reddish, irregular and a little sinuate in course. The reniform is pale, narrow, ovate, and breaks into the dark triangle from the costal area. There is a rivulous black terminal line following the scallops of the wing margin. Secondaries blackish-brown from base to s. t. line, the latter a little sinuate, pale, followed by a reddish shading, the space beyond whitish, with brown powderings; a blackish or brownish cloud breaks the pale area in some examples. Beneath, dull smoky-brown, with a dusky discal spot and obscure transverse lines at and within the middle on all wings.

Expands: 1.24–1.48 inches = 31–37 mm.

Habitat.—Yavapai Co., Arizona, May 23–31. Hutson. So. Arizona, Poling.

Six males and four females in fair to good condition. Although this species looks like *selenis*, it is really so close to *protea* that I was at first inclined to believe it only an extreme variety. The maculation, so far as it is traceable, is almost identical, and the description of the former will answer very nearly for the present species. But though I had so many examples, I could not get any real intermediate forms to this type with whitish costal and terminal area, and as this was also uniformly darker on head, thorax and abdomen, I concluded to risk description.

Homophyralis edilis, n. sp.—Ground colour a reddish luteous, overlaid and powdered by brown and black scales forming the ornamentation. Head, collar and palpi deep chocolate-brown; thoracic disc more powdery. Abdomen of the ground colour, the segments obscurely dusky-ringed. Primaries with outer half of basal space shaded with dusky to the t. a. line, which is single, black, irregular, upright, and preceded and followed by a bar of the ground colour. At the edge of this bar in the cell is the black, punctiform obicular, and beyond it and to the black, oblique oblong reniform, a brown shade fills the cell and extends across the wing, forming the most obvious feature. The outer edge of this dark median fascia is at about the middle of the wing, and beyond it the pale ground extends to the dusky terminal space, broken on the costa by a deep brown blotch, which fills the s. t. space at that point. T. p. line slender, black, single, irregular, tending to become lost. S. t. line indicated only by the dusky shading, except at costa, where it is defined by the dark blotch. A series of black terminal lunules, each followed by a yellow edging which does not cross the fringes. The secondaries have the maculation of the primaries continued across the disk, and an oblong black discal spot. Beneath, pale yellowish, powdery, with obscure smoky median lines and a discal spot on each wing.

Expands: .74-.82 inches = 18.5-20.5 mm.

Habitat.—Yavapai Co., Arizona, June 23, 27, Aug. 2, 3, 8, 24. Mr. Hutson.

Five males and one female in fair to good condition. The August captures are labelled Minnehaba. In a general way the species resembles the eastern *tactus*, but is smaller, slighter and with a broader median band, in which the reniform is neither as large nor as conspicuous.

Mr. Hutson's collections in this genus included also a specimen of *H. cinctus*, described from Prof. Snow's material, and in the allied genus *Yrias* a large series of *Y. clientis*, *Y. repentis* and *Y. volucris*, as well as smaller numbers of *Y. irentis* and *Y. albiciliatus*.

Renia Hutsoni, n. sp.—Head, thorax and primaries fawn-gray, tending to reddish; the males darker, with smoky powderings. Head and thorax immaculate. Primaries, t. a. line upright or a little oblique, smoky, with a preceding yellowish line, tending to become broken and diffuse in the male. T. p. line smoky, almost parallel with outer margin, even, followed by a yellowish line. S. t. line yellowish, a little irregular, preceded by a variable, often broken dusky shading, reaching the inner

margin very close to the t. p. line. There is an almost upright diffuse median shade through the middle of the median space. Orbicular a small, round, yellowish dot, scarcely traceable in the female, more obvious in the male. Reniform narrow, upright, yellowish, with or without a black dot inferiorly. Secondaries dull, smoky. Beneath, powdery, primaries with one, secondaries with two more or less imperfect transverse lines, all wings with a discal lunule.

Expands: .95-1.05 inches = 24-26 mm.

Habitat.—Arizona, Minnehaha, Yavapai Co., Aug. 18 to 21. Mr. Hutson. Southern Arizona, Aug. 1-15. Poling.

Seven males and four females, all in at least fair condition, and all save one taken by Mr. Hutson. The species is an ally of *flavipunctalis* and *pulverosalis* by its even median lines, but differs obviously in size, in the obscure maculation and in general habitus. The males are uniformly darker, more powdery and narrower-winged than the females, and, as a rule, the secondaries are immaculate. In one specimen an extra-median pale line is fairly defined, and in two others it is indicated toward the inner margin.

BARON C. R. VON OSTEN SACKEN.

It is with deep regret that we record the death of our greatly-esteemed friend, Baron Osten Sacken, the eminent Dipterist, who died at Heidelberg, Germany, on May 20th, in the seventy-eighth year of his age. He was born at St. Petersburg on the 21st of August, 1828, and for many years was attached to the Russian Embassy in Washington, and afterwards was Consul-General for Russia in New York. During the twenty-one years he spent in America he prepared and published his own works on Diptera, and those of Dr. H. Loew, who was unable to write in English. To him is entirely due the first scientific knowledge of the North American species belonging to this great order of insects. A little over two years ago he published the "Record of his life-work in Entomology," a review of which will be found in the CAN. ENT. for December, 1903, Vol. XXXV, p. 344, and to which we would refer the reader who wishes for further information respecting the career of this remarkable man. He was an honorary member of the Entomological Society of Ontario. Only a few months ago the writer had a cheery, interesting letter from him; he was then in excellent health and spirits, though so near to fourscore years of age.

C. J. S. B.