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Five Strange Lepidoptera (Oinophilidae, Noctuidae, Gelechiidae).

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(With Plate V)

The following Lepidoptera are described at this time because I would like to refer to them elsewhere, where there will not be room for a satisfactory description. The first one is thoroughly aberrant, but appears to belong better in the family Oinophilidae, which has not before been reported from the United States, than to the Tineidae, to which it also shows some affinity. The Oinophilidae are a family of somewhat special interest, as they appear to form a connecting link between a whole group of families of the lower Tineoidea, namely, the Tineidae, Lyonetiidae, Opostegidae and Gracilariidae, with the isolated and aberrant genera *Cemiostoma*, *Bedellia*, *Bucculatrix*, *Phyllocnistis*, and their relatives. Of these only the Gracilariidae have been lately revised by Meyrick. In larval habit, however, the known Oinophilidae contrast strongly with the Gracilariidae, Lyonetiidae and Opostegidae, feeding on decaying vegetable matter and fungi, like many Tineidae, while in

appearance and structure the imagos are closely similar to the Lyonetiidae and Opotegeidae. They are strongly flattened moths, with flat coxae closely appressed to the body, usually with smooth heads, rising to a rounded ridge between the antennae, but often with a loose tuft on the vertex, as in *Oinophila* itself, and rather small maxillary palpi of the folded type. The labial palpi have a well-set-off, fusiform, terminal joint as in the Tineidae, and are normally without bristles. The venation in the known genera is more or less reduced. Besides the well-known European and tropical genera *Oinophila* and *Opogona*, and the following genus, there are numerous less known tropical forms, gradually grading into the Lyonetiidae and the true Tineidae. As a rule nothing is known of the life histories of these and nothing has been published on several interesting points in their structure, so that it is impossible to say to which family they belong, unless the families be combined.

The present form may be characterized as follows:

PHAEOSSES new genus (*φαίος* brown; *σῆς* moth).

Head smooth-scaled, as a rule slightly ruffled on the vertex, but without any definite tufting; eyes small, far apart; ocelli absent; front somewhat retreating, but convex, the rounded ridge between the antennae less prominent than in *Opogona*. Antennae three-fifths as long as fore wing, evidently turned back across the eye in repose; scape a little longer than width of eye, a little broadened, but without eyecap or pecten; shaft with a single whorl of appressed scales on each segment, with a few weak setae passing between their bases. Maxillary palpi small but folded, and stronger than in the Gelechiidae; tongue obsolete; labial palpi with basal joint short, second upturned, smooth and concave on upper surface, fitting the face, but normally drooping in death, lower edge rough-scaled; third segment short-fusiform, two-thirds as long as second, rough-scaled and flattened dorso-ventrally, commonly held porrect; no bristles visible. Body strongly depressed, the abdomen very flat; coxae and especially fore coxae broad and closely pressed to body; fore tibia very short and stout, with strong epiphysis; middle legs normal; hind tibia with spurs at a third its length,

with a fringe of long bristly hairs above; hind tarsus smooth, normal. Metathorax relatively large, as in *Opogona*.

Fore wing (Plate V, figure 1) lanceolate, not caudate, but distinctly curved down at the apex; cell narrow, with a broken dividing vein from base to apex, weakly connected with the front edge of the cell halfway between the origins of *R*1 (11) and *R*2 (10), probably representing part of the base of media and the stem of *R*4+5; *R*1 arising at one-third length of cell, *R*2 just beyond middle, the stem of *R* between them definitely angled at the point of separation of *R*4+5; *R*3 (9) arising shortly before end of cell, well separated from *R*4-*M*2 (5 to 8), which arise from a common stem at end of cell; *R*4 (8) given off before *M*2 (5), and *M*1 (6) practically obsolete, but I think traceable; *R*5 (7) running to costa; free parts of dorsal veins parallel, but *M*3 (4) strongly converging at origin to the stem of *R*4-*M*2; *M*3 and *Cu*1 (3) separated by a moderately long bent vein, which receives the dividing vein of the cell, *Cu*1 and 2 (3 and 2) by a long oblique vein; 1st *A* (1c) free, the outer part well chitinized; 2nd *A* (1b) distinctly forked at base. Hind wing two-thirds as wide, lanceolate, with the costa hardly at all concave at the middle; fringe 2; *Sc* (8) ending at two-thirds, running close to costal edge; *R* (7) moderately separated from *M*1 (6), running obliquely to costa; *M*1 (6) to apex; *M*2 (5) nearly connate with it, continuing the distinct base of *M*; cell open below *M*2; *M*3 (4) lost; *Cu*1 (3) and 2 (2) forming a strongly forked free vein; 1st *A* (1c) well developed; 2nd *A* (1b) short and obscurely forked; 3rd *A* (1a) practically obsolete. Frenulum simple in both sexes; frenulum-hook of male normal, of female made up of a series of hooked hair-scales, apparently without any membranous portion.

Fixed hairs are completely absent, except for the usual patch on the inner margin of the fore wing, even the small area over the base of *R*, which exists in *Opogona* and *Opostega*, being lost, and represented only by a group of weak transverse folds. The female ovipositor is membranous, slender and extensile.

The genus will run by Meyrick's key (Proc. Linn. Soc. N. S. W. 22: 298, 1897) to *Lozostoma* (*Opogona*), from which it differs in many particulars, especially the convex front, and

nearly complete venation. Of more recent genera it shows a certain resemblance to *Hippiochaetes* Meyrick, which has a tufted head, and to *Amathyntis* Meyrick, which obviously differs in the bristled palpi, as well as markedly different venation. In North America the flattened body, smooth head and folded maxillary palpi will immediately distinguish it, save perhaps from a few Cosmopterygidae, which differ in their smooth, regularly tapering third palpal segment, and the sinuate costa of the hind wing. In my family key it will run to the Acrolepiidae, but is easily distinguished by the separate *M*1 and 2 of the hind wing, and completely smooth head. By Hampson's key (Nov. Zool. 25: 387, 393, 1918) it runs to the Lyonetiidae, family No. 84.

There is only the following species (*genotype*):

Phaeoses sabinella, new species.

Shining gray-brown (mouse gray); ridge between antennae, face and under side much paler, dirty white; outer side of fore coxae and femora, fore tibiae and tarsi, part of middle femora, especially toward the base and apex, and on the outer side, and shorter spurs of middle tibiae, brown; middle tibiae and shorter spurs of hind tibiae somewhat shaded with brown. There is little variation in a series of nearly fifty specimens of varying quality, but on account of the brilliant gloss it is impossible to form an accurate judgment of the shades of color, especially on the legs. Expanse 9 mm.

The male genitalia (Plate V, figure 2) are not unlike those of related forms. The part considered to be the *uncus* (*Un*) is a chitinization on each side of the anal opening, continuous with the *tegumen* (*ixT*), which is itself continuous with the *vinculum* (*ixS*). There is no chitinization at all in the mid-dorsal line, and the lateral suture is indicated only by the articulation of the *valve* (*V*). The valves are ankylosed with the *juxta* and cannot be opened beyond the position figured. The valve is provided on its inner face with a mass of basally directed hair near the apex, and a patch of spines near the base, which are indicated on the right side of the figure as visible by transparency.

Sabine River, Louisiana, opposite Orange, Texas, June 20, 1917: *holotype* and numerous paratypes; Biloxi, Mississippi, June 13, 1917, paratypes; Bay St. Louis, Mississippi, June 17, 1917, one paratype. Types Cornell U., No. 594.

The four species remaining are somewhat less aberrant in character, although each is so distinct from its relatives that some would consider it worthy of a genus. It seems best to

describe the two Gelechiidae in recognized genera, as the groups of the family to which they belong are rather in need of revision as a whole.

XYLORMISA new genus (ξύλον wood and *Hormisa*).

Near *Hormisa*. Male antennae unipectinate and heavily ciliate at base, and bipectinate beyond the knot, which is about a third way out from the base, larger than is usual in *Hormisa*, and apparently not provided with curved spines; second segment of palpus more definitely upcurved, but not strongly so, the third short, and normally erect, as in *Hormisa*. Fore wing with well-marked apex; accessory cell obscure, very small and narrow, with *R*2 to 4 (veins 8 to 10) stalked from its apex.

This Noctuid genus is closely related to *Hormisa* and I might not separate it, save for the fact it will run to a different point in Schaus's Key (Proc. U. S. Nat. Mus. 50: 262). It will run to alternative 67, where it is separable by the pectinate antennae. In fact the pectinate antennae with a knot hardly occur save in *Hormisa*, which has a large normal accessory cell. The male fore legs are not unlike those of *Hormisa*, with trochanter very slender, and much longer than femur, and tarsus concealed.

Genotype: Xylormisa louisiana n. sp.

Xylormisa louisiana new species.

Ground light wood-brown, formed of dark brown dusting on a clay-colored base. Head and thorax paler; antenna concolorous, with the swelling somewhat darkened; palpus with second segment heavily dusted, except extreme apex, third segment dark brown, with apex more or less distinctly whitish; legs heavily dusted and shaded with blackish, especially the mid-tibia and tarsus. Abdomen lightly dusted with pale gray toward base, the apical segments of the male pale brown-gray with whitish margins, in the female not darkened.

Fore wing becoming darker at the margin; orbicular and claviform represented by vertically placed black points, reniform of two such points, with a third dot below them in the fold, postmedian line represented by a strongly outcurved series of four or five black dots between the veins, on the costal part of the wing; subterminal waved, pale, obsolete at the costa; a broken black terminal line; basal half of fringe dark gray, with pale bars in it corresponding to the black terminal bars.

Hind wing paler, being dusted with pale gray like the abdomen, with faint shaded pale postmedial and subterminal bands, parallel to the outer

margin; terminal line black, continuous, followed by a pale line in base of fringe. In the allotype the markings are fainter. Wing expanse 18 mm.

Sabine River Ferry, Louisiana, June 20, 1917, *type* ♂; Schriever, Louisiana, June 17, 1917, allotype ♀. Types, Cornell University, No. 596. There is a female from Canada in the Barnes collection, but I have no notes on it.

ARGYRACTIS Hampson, **OXYELOPHILA**, new subgenus.

Similar to those North American species formerly in *Elophila*, which are now placed by Hampson in *Argyractis* (*fulicalis*, *bifascialis*, etc.). Fore wing (Plate V, figure 3) strongly falcate, hind wing with *M*3 lost (as in other *Argyractis*), *M*2 and *Cu*1 stalked. Labial, and in the typical species maxillary, palpi longer and more slender than in *Argyractis*, the maxillaries flattened, and acute only in side view. Mid and hind tibiae and midtarsi flattened and fringed with hair-scales in the female, as in *A. fulicalis* and *bifascialis*; spurs fully developed. Fore wing with *R*3 typically lost, but distinct in *A. (O.) meianograpta*, from Demerara, which also has reduced maxillary palpi.

A. harpalis, *lanceolalis*, *necomalis* and *ticonalis* also obviously belong to this subgenus. None of the species have the ocellate spots on the hind wing present in all the Northern species of *Argyractis*.

Apparently Hampson had an aberrant specimen of *A. bifascialis*, as he indicates that it has *M*2 and *Cu*1 stalked; in a considerable series that I have examined of both the type and the form *kearfottalis*, the veins are always separate.

Genotype: *Argyractis (Oxyelophila) callista* n. sp.

Argyractis (Oxyelophila) callista, new species.

Similar to *A. harpalis* Snellen, from Central America (Tijd. v. Ent. 43: pl. 17, f. 1). *R*3 lost (stalked in *harpalis*, according to Snellen). White; front with a black dot at base of antenna; abdomen with a black transverse band on base of second segment, nearly or quite interrupted in the middle; fore coxa and femur with brown streaks, tibia blackish, tarsus and middle and hind legs slightly infuscated.

Extreme base of costa with a black point; a black subbasal dot on fold, as well as the ones on costa and near inner margin; antemedial line practically complete, right-angled on *Sc* and oblique to inner margin,

with teeth on cell and fold; preceded by a broad black-brown fascia, which runs through to the costa, obliterating the second antemedial costal spot; postmedial marks as in *harpalis*, but more suffused, with the yellow on the costa replaced by dull wood brown, and the white circle partly suffused with brown; a wood brown terminal band, representing the yellow and white one of *harpalis*, defined inwardly with a clean-cut black line, which runs out into the apex, and outwardly by a blackish shade. Outer half of fringe white, with fuscous scale-tips.

Hind wing with a complete irregular antemedian band, starting at *Sc*, preceded by some blackish scaling; *discal spot strong, yellow*, defined inwardly by a few brown scales, and outwardly by an incurved blackish line; postmedian line black, erect to discal fold, then right-angled and incurved in a regular sweep to anal angle, almost touching the discal dot; followed by a second weaker line, which does not reach the costa, and is interrupted at the angle. Fringe whitish, clay colored or light wood brown at base, with traces of a black terminal line. Wing expanse, 13 mm.

New Braunfels, Texas, June 26, 1917; *holotype*, six paratypes and three other specimens in poorer condition, all females. Cornell type No. 595.

***Gelechia arenella*, new species.**

Clay color; third joint of palpus slightly darker, and second paler on sides, with a short, smooth and slightly divided brush; antennae fuscous, tips of tegulae pale. Fore and middle legs fuscous, the midfemora and tibiae obscurely mottled and tarsi ringed with whitish.

Fore wing with darker grayish shading between the veins, leaving the veins contrastingly pale; inner and outer discal points round, and a point in the fold before the inner one, all black; a few scattered black-tipped scales, gathering into faint antemedial dots in cell and above inner margin, and along the outer margin, and forming a streak below the basal part of subcosta. Fringe concolorous. Hind wing pale pearl gray. Wing expanse 20 mm.

Woods Hole, Mass., August, 1917; *type* and five paratypes ♂, Cornell type No. 518. Rockaway Beach, New York; paratypes in Barnes collection.

This is apparently the species on which the American records of *G. petasitis* are based, but it is not even closely related, as the figures of the genitalia (Plate V, f. 4, *arenella*, f. 5, *petasitis*, at the same scale) will show. It is much more robust, and the pale veins are distinctive.

***Duvita* (?) *tahavusella*, new species.** (Tahawus is the Indian name for Mt. Marcy.)

Scape smooth, as long as the eye, with a single long bristle near the base, representing the pecten. Palpi with second joint smooth, but considerably thickened with scales, third noticeably longer, smooth and acute. Fore wing normal, as in *Duvita* and *Aproaerema*, with *M*1 well separated from *R*4+5. Hind wing with produced apex as in *Aproaerema*; *R* and *M*1 stalked a third way to apex, *M*3 and *Cu*1 hardly stalked, and *M*2 somewhat approximate. Penis a sharply curved spine, articulated at the base.

Dark smoky gray, slightly shining, under a lens with pale scale-bases and dark tips. Palpi concolorous; legs blackish, contrastingly ringed with clay color, the hind tibia with pale bands at both pairs of spurs; the hind femur and inner face of tibia and tarsus contrastingly pale.

Fore wing with pale spots three-quarter way out on costa and inner margin, the costal one much larger, and with an obscure black ante-median spot in the fold, followed by some pale scales. Hind wing gray, paler. Wing expanse 11 mm.

Uphill Brook, Mt. Marcy trail, Adirondacks, New York, July 10, 1918, *type*. Peru, Adirondacks, New York, June 8, 1916, 4 paratypes. Cornell U. type No. 519.

The Mt. Marcy specimen is fresher than the others in spite of its late date, but this is doubtless on account of the high altitude (3200 ft.). This species is the first really North American Gelechiid with a pecten on the antenna, as the genera *Sitotroga* and *Pectinophora* are introductions from the Old World. A couple of European species of *Aproaerema* (*Anacamptis*) are closely similar, but I have seen no specimens of any of them with a pecten, and all five of my specimens of *tahavusella* have preserved it.

The University of Michigan-Williamson Expedition to Brazil.

The expedition left New York on December 15, 1921, as forecast in the NEWS for January, page 11. From letters from Mr. Jesse H. Williamson to members of his family we are enabled to give the following outline of the progress made. On reaching Pará they took steamer up the Amazon to Manáos, arriving there on January 13. Here they saw Dr. Rusby, of the Mulford Exploration, on his return journey to New York (see the March NEWS, page 91), and Herr Fassel, the well-known collector of insects. On the 14th they left Manáos by steamer and proceeded to and up the Rio Madeira, collecting as the stops of the vessel permitted, and disembarked at Porto Velho, "Brazil's third largest city in the Amazon basin," January 21. Here they "secured fine quarters in Hotel Brazil—connecting rooms with electric lights, shower baths, cold drinks (iced) of all kinds available, etc., at about \$1.75 per day each." At last writing, February 9, they were still at Porto Velho. Showers and cloudy weather had been frequent, the temperature about 78° F., altitude 60 meters, latitude 8° 46' South, longitude 63° 55' West.

From Porto Velho several trips into the surrounding country had been made, that of two days by motor car on the Madeira-Mamoré Railway to Guajara, its present terminus, some 350 kilometers, being the longest.



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