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## DESCRIPTIONS OF NEW TAXA OF THE SO-CALLED GLYPHIPTERIGIDAE AUCTORUM (LEPIDOPTERA)

by

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With 14 text-figures

The present paper contains descriptions of one genus of the Hilarographini (Tortricidae), three species, one subspecies, with one forma, of the Choreutidae, and six species with one forma, of the Glyphipterigidae, all groups formerly having been assigned to the so-called Glyphipterigidae auctorum. These taxa will be illustrated in the forthcoming revisionary volume of the complex "family" in the series "Microlepidoptera Palaearctica", now in preparation. The new descriptions are published here, in order not to delay their appearance unduly.

The whereabouts of the type specimens are indicated with abbreviations, of which a list will be found at the last page of this paper. The author is grateful for the permission to retain certain duplicates for the collection of this museum. The drawings of the genitalia are by Messrs. A. C. M. van Dijk, the Hague, and J. J. A. M. Wessendorp, of this museum; some sketches are by the author.

### **Charitographa** gen. nov.

(χαριτογράφος = charmingly marked)

Superficially similar to *Thaummatographa* Walsingham, 1897, but female genitalia with a ductus bursae rather wide throughout, with its lower half and the corpus bursae densely clothed inside with a layer of modified, stiff, asteroid and pedunculate spines, arranged regularly and forming a continuous layer, while a signum or signa are absent; lobi anales soldered into a stiff tube, open and narrowed towards top. The male genitalia with the aedeagus robust and shorter than valva.

Type-species, *Hilarographa micadonis* Stringer, 1930, Japan.

The monobasic genus seems to be a peculiar development of *Thaumato-grapha* Walsingham, differing considerably by the female genitalia, clothed inside with a stiff layer of modified spines and devoid of signa. The male has a thick and short aedeagus, unique in the group.

**Thaumato-grapha leucopyrga** (Meyrick) (figs. 1, 2)

*Hilarographa leucopyrga* Meyrick, 1912, Exotic Microlep., 1 : 36; 1913, Lep. Catal., 13 : 24; 1914, Genera Ins., 164 : 7; 1936, Exotic Microlep. 4 : 616. — Inoue, 1954, Check List of Lep. Japan, 1 : 48, no. 228. — Clarke, 1955, Catal. Meyrick's Types, 1 : 186.

*Thaumato-grapha leucopyrga*; Diakonoff, 1977, Zool. Verh., 158 : 27, figs. 24, 30.

In my above cited paper, Meyrick's 1936 record of *leucopyrga* from Java, has been intentionally, but erroneously, excluded from the survey of literature of the present species; in the text of the same page, however, Javanese material is being treated correctly.

As no male specimens with intact abdomens and but a single female abdomen were available of the material from Java, its identity seemed somewhat dubious. Now that I was able to dissect, compare and figure more females from Japan, I am satisfied that slight discrepancies of minor details of the sterigma are due to individual variability only.

In order to illustrate this variability, three recent figures, two of females and one of a male (with seemingly deviating socii), are reproduced on figs. 1, 2(1) and 2(2).

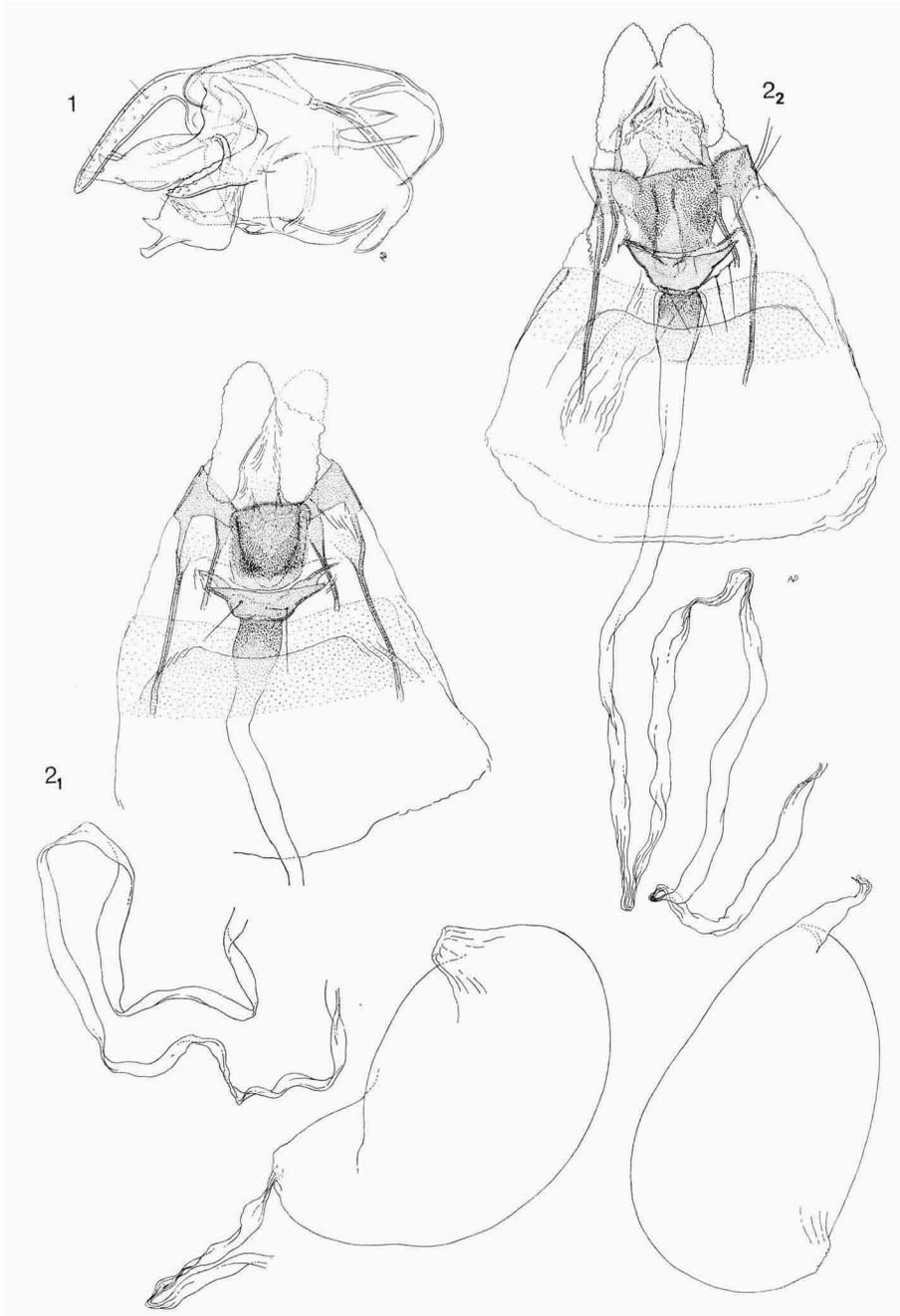
CHOREUTIDAE

**Litobrenthia stephanephora** spec. nov. (figs. 3-5)

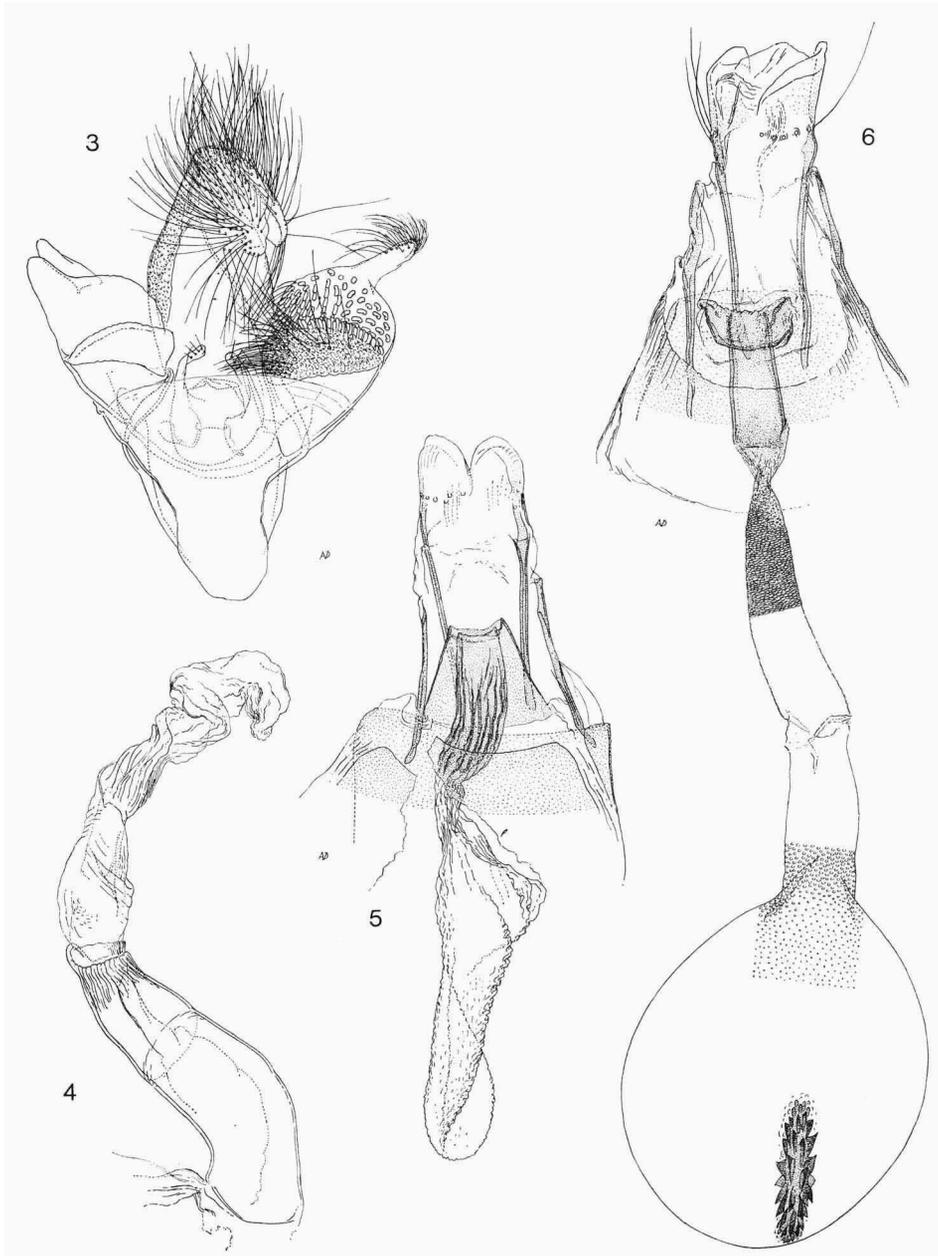
(στεφανηφόρος = wearing a wreath)

♂♀ 10-10.5 mm. Head light fuscous with a golden gloss gently dusted with white, face below gradually becoming paler, orbits white. Antenna pale tawny. Palpus exceeding base of antenna, white, banded with light fuscous-tawny; bent at first joint, thence narrowed and rather straight. Thorax light tawny-fuscous, more densely dusted with white, a faint angulate submedian transverse line, tegula anteriorly finely white-edged. Abdomen light fuscous-tawny, opalescent, venter white mesally, with white edges of segments.

Fore wing triangularly dilated, broad, costa curved beyond middle, apex and termen rounded, termen very little oblique. Tawny-fuscous, markings formed of close whitish dusting. A transverse streak beyond 1/5 of wing, slightly inwards-oblique, preceded by two more streaks, median broadest, together forming a small basal patch, suffused, third streak more or less distinctly serrate anteriorly; a moderate, sinuate, rather submedian streak,



Figs. 1-2. Genitalia of *Thaumatogeta leucopyrga* (Meyrick), from Japan. 1, Male, tegumen part of the genitalia, slide no. 9643; 2(1), female, genit. slide no. 156 YA; 2(2), female, genit. slide no. 261 YA.



Figs. 3-6. Genitalia of *Litobrenthia* spp. 3, *L. stephanephora* sp. n., ♂, holotype; 4, the same, aedeagus; 5, the same, ♀, allotype; 6, *L. grammodes* sp. n., ♀, holotype.

inwards-oblique, lower end turned basad; upper half serrate anteriorly; this streak more or less extended posterad by a thin dusting shaped as an irregular and coarse net, entirely obscuring the ocellar spot in disc, but not reaching costa; a more conspicuous, paler and denser transverse band beyond  $3/4$ , moderately narrowed and curved basad on costa, slightly dilated and sinuate downwards, bluntly angulate above fold; black terminal band broader than preceding, rather abruptly narrowed from apex to costa, cut by six radial pale grey-orange lines in seven inequal blotches, last line incomplete; all blotches with a metallic silvery dot on posterior  $1/3$ , two dots on fourth blotch, largest and subquadrate; upper three blotches quickly increasing in size, lower three equal. Cilia glossy fuscous, with three very thin and faint pale parting lines, lower of these basal.

Hind wing paler tawny-fuscous, irregularly clouded with darker; a faint, suffused erect-oval discal spot across cell before middle of wing; an irregular, darker fuscous streak from tornus, parallel in termen, gradually narrowed to middle, top subclavate; this streak on upper side accentuated by a central cloud of thin white dusting, below edged by a thin whitish suffused line, from tornus to vein 6, running subparallel to termen; a blue and violet metallic line, parallel to the wing edge, from costa before apex to vein 1b before its end; margin of wing beyond this line with some ten quadrate darker fuscous blotches, showing black in certain lights. Cilia with basal third fuscous with a suffused paler basal line, apical  $2/3$  of cilia whitish-fuscous, two oblique suffused pale tawny streaks, from  $1/3$  and  $2/3$  of termen, respectively, each followed by an oblong blackish fuscous suffusion; a slender white bar on costa well before apex.

Male genitalia (figs. 3, 4). Strongly modified and compactly built. Tegumen cylindrical, crowned by an oblong, porrected united pair of long-bristled and bipartite socii. Vinculum robust, also conical, open ventrally. Valva short, massive, with a broad base, encircling base of tegumen; disc of valva apparently formed of a thin sclerotic outer sheet and a fleshy inner sheet, regularly set with obtuse short spikes, darkly sclerotic; top of valva with a naked process, thinly haired on top. Juxta, a strong plate. Anellus formed of two semiconical sclerites, with narrowed and bristly tops. Aedeagus moderate, tubular, with slightly narrowed, sinuate, with a small coecum penis.

Female genitalia (fig. 5). Ovipositor moderate, cylindrical. Lobi anales, two parallel rising flaps, subsclerotic, with rounded tops, densely bristled, also a ring of long bristles below top. Anapophyses moderately long, shorter than postapophyses. Ostium, a large, sclerotic intersegmental cone, inside this, a wide tubular colliculum, also sclerotic, with numerous longitudinal folds. Ductus bursae wide and short, passing into an oblong-ovoidal corpus bursae,

close to the end of ductus emitting a wide ductus bullae, which becomes wide and turns back to the colliculum, below its orifice. Signa absent.

Taiwan, Sizyunkei, 6.i.1926 (S. Issiki), 1 ♂, holotype, genit. slide 9961; 1 ♀, allotype, genit. slide 9957; 1 ♀, paratype. Taiwan, Kuraru, 20.iii.1926 (S. Issiki), 1 ♀, paratype. Issiki collection. USNM and RMNH.

A remarkable species, externally recognizable by the peculiar markings of the hind wing, internally, by the genitalia of the two sexes, showing close relationship to *L. coronigera* Meyrick, from India and probably also to *L. leptocosma* Meyrick, from Mauritius.

***Litobrenthia grammodes* spec. nov.** (fig. 6)

(γραμμωδής = in lines)

♀ 10.5 mm. Head and thorax light fuscous-greyish-purple with a golden gloss, shoulder and side of collar whitish, orbits white-edged, face white below, tip of thorax white. Antenna fuscous-purple, white-banded laterally, scape laterally white. Palpus exceeding base of antenna, angulate at end of basal segment, thence straight, obliquely rising. Abdomen dark purple with silvery reflections, venter white.

Fore wing oblong-triangular, costa gently curved, apex and termen rounded, termen almost vertical. Deep fuscous-purple, gradually becoming darker posteriorly, terminal black marks hardly showing. Markings white: a moderate, slightly inwards-oblique transverse streak at 1/5, top narrowed, not reaching costa, anterior edge well-defined; a tolerably parallel discal erected-oval blotch beyond middle, edge suffused, anterior edge continued to middle of dorsum; a suffused small spot before 3/4 of dorsum; an erected-oval white subterminal spot just below middle; termen with four ill-defined jet-black, prostrate-oval spots, paler separating lines hardly perceptible; a submarginal row of metallic violet roundish dots, arranged thus: a close pair between first and second spot, another pair between second and third spot, a single dot between third and fourth; inwards-oblique irregular subcostal groups of violet-metallic scales: first fasciate, between first and second white mark, second group rounded, beyond top of second mark. Cilia grey-fuscous with a bronze gloss, a darker submedian line, a blackish suffusion in tornus.

Hind wing paler fuscous-purple; costa pale grey, at 1/3 emitting a crescentic white streak, suffused point directed towards termen below apex; a broad white streak parallel to termen from vein 6 to 1b, edges suffused; a pale violet-metallic streak between preceding and termen, dilated before apex, angulate and running below costa to 2/3. Cilia glossy bronze-fuscous,

with two parting blackish lines and white tips, an oblique suffused white fasciate spot across cilia opposite middle of termen.

Female genitalia (fig. 6). Ovipositor broad and moderately long, subsclerotic, cylindrical, lobi anales bristly along upper edge. Seventh sternite gently sclerotic. Ostium sclerotic, U-shaped, hardly aciculate, with darker ribs and wrinkles. Colliculum long and rather wide, cylindrical, sclerotic, gently dilated downwards, wall strong. Ductus bursae simple above, in middle very densely granulated, towards end granulations getting thinner. Corpus bursae with an oval aciculate part of wall centred with oblong, strongly scobinate signum.

Taiwan, Taihoku, 14.xi.1932 (S. Issiki), 1 ♂, holotype, genit. slide 9956. Issiki Collection. USNM.

As already remarked earlier (Diakonoff, 1968), a complex of some dozen allied, as well as distant, but superficially similar species are confounded under the name *Brenthia albimaculana* Snellen. The genitalia show considerable specific differences, while the white markings are subject to variation and therefore are untrustworthy for the separation of species. *L. grammodes* is a typical member of this confusing group.

***Anthophila oreina* spec. nov. (fig. 7)**

(ὄρεινός = of the mountains)

♂ 13 mm. Head dark fuscous, slightly dusted with paler, face below dusted with whitish, vertex more densely dusted with whitish, orbits narrowly white-lined. Antenna black with broad white rings, ciliations 2. Palpus rather long, curved at base and ascending, basal segment with white base, median with white base and apex, terminal segment with a whitish median band. Thorax blackish-fuscous, sparsely strewn with small whitish scales, more densely at apex, a faint, inverted-V-shaped black postmedian transverse mark. Abdomen black, posterior edges of segments narrowly mixed with bluish-white.

Fore wing oblong-triangular, costa hardly curved anteriorly, moderately curved posteriorly, apex obtusely pointed, termen gently convex, almost straight. Fuscous-black with a slight purplish gloss, dusted with fine pale grey points, except at the following areas: three black transverse fasciae, first before 1/3, moderate, narrowed above middle and again in fold, upper half vertical to fold, thence fascia angulate and slightly outwards-concave, to 1/4 of dorsum, indistinctly projecting anterad twice, just below costa and in fold, dorsal part most distinct; second fascia of not-dusted ground colour

forming a broad, slightly postmedian band, with anterior edge suffused, becoming concave below; edge of band formed by a narrow and rather faint line of white irroration, with a white fasciate spot on costa, thence double and forming a rhomboidal figure to below middle of disc, thence single and more distinct, sharply zigzagged twice, to end of dorsum; this line followed by some sparse white dusting, leaving apex and termen evenly black. Cilia black, indistinctly mixed with whitish from below apex to before middle and from beyond middle to above tornus.

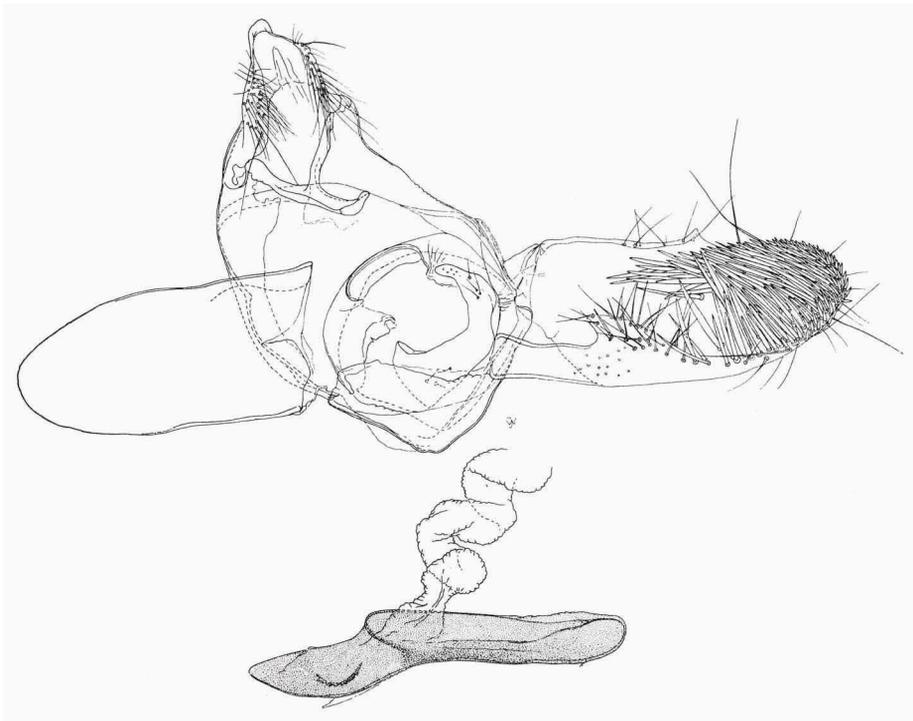


Fig. 7. Male genitalia of *Anthophila oreina* sp. n., holotype.

Hind wing fuscous-black, becoming dark grey towards base, an almost straight white streak from dorsum above tornus to about lower angle of cell, here extended by some whitish dusting. Cilia dark grey with a black sub-basal band and a pale basal line opposite end of vein 2, cilia above band white, black band narrowed here.

Male genitalia (fig. 7). Tegumen strong, upper third narrowed, with oblong lateral hairy socii. Uncus short, rather obtuse. Gnathos slender, sclerotic, with the Y-shaped point concave and rather narrow. Vinculum

spherical, broad. Valva oblong, top oval, costa beyond middle with a small sharp transverse ridge, a naked cucullus absent, sacculus bulbous beyond base, excised along upper edge at base; a very dense patch of bristles, occupying less than apical half of valva, bristles becoming very large anterad. Anellus, a large, sclerotic hemisphere. Aedeagus moderate, rather angulate before  $1/3$ , apical third thick, curving downwards, rather pointed. Cornutus, a semicircular, serrate blade.

India, Kashmir, Gullmarg, ca. 3000-3500 m, 8.viii-1.ix.1978 (Copenhagen Zool. Museum Expedition), 1 ♂, holotype, genit. slide 10117; 4 ♂ paratypes, with identical labels. ZMKD; one paratype, RMNH.

The species resembles the common *A. fabriciana* Linnée very closely, is smaller and very dark, while the genitalia are quite distinct. In this respect it is nearest to *A. armata* Danilevsky, but differs by a smaller gnathos, a narrower valva with a single large patch of bristles which become huge anterad, by the absence of a naked cucullus and a different aedeagus, not furcate as in *fabriciana*.

It seems very probable that at least some Indian records of "*Anthophila fabriciana* Linnaeus" by Fletcher, pertain to the present species. He says (1933: 25): "The species was very common amongst nettles at Gulmarg (Kashmir, 8.800 feet) in June, 1931. It also occurs in Kashmir Valley . . ."

Whether the other records of "*fabriciana*", viz., from Dungagli, 8000 ft, Hassari District (Fletcher, 1921: 127) and of Muktesar (Kumaon, 7000 ft) (Fletcher, 1933: 25) refer to *A. oreina* also, remains to be proven.

#### ***Anthophila armata* forma *superba* nova**

(*superbus* = proud)

♂ 17.5 mm. Head tawny-fuscous, collar paler, face rather glossy bronze. Antenna dark fuscous, white-ringed, ciliations over 2. Palpus straight, porrected and slightly raised, terminal segment slightly more raised; smooth above, median segment with a short fringe of roughish scales below, hardly dilated; terminal segment about half median, smooth slender, obtusely pointed. Thorax greyish-fuscous tinged tawny. Abdomen deep blackish-fuscous, with bronze gloss (all abdomens greasy).

Fore wing oblong-triangular, rather dilated, costa curved along anterior half, almost straight posteriorly, apex obtusely rounded, termen long, gently sinuate above, moderately rounded below, oblique. Glossy bronze-fuscous, without markings, sparsely strewn all over with small whitish-creamy scales, except on a circular patch beyond upper half of discoidal vein and along terminal edge. Cilia fuscous, basal half deep grey-fuscous-bronze, a narrow pale median line dividing these halves.

Hind wing a trifle paler fuscous-bronze, when glossy (in certain lights) then appearing rather lighter than fore wing and much more glossy. Cilia rather dull white, greyish around apex and along dorsum, with basal third throughout fuscous-bronze.

Male genitalia entirely similar to those of the nominate form.

Central Asia, Central Altai Range, Seminsk Range near Shebalino, 1400 m, 11.vi.1974 (Y. Kostyuk) (In Russ.), 1 ♂, holotype, genit, slide 9901; 4 ♂, paratypes, with the same labels. ZIAN, UANK and RMNH.

A large, rather unicolorous, very dark form with distinctly broader wings than in the nominate form, but with the male genitalia identical. So different is the superficial appearance, that the four males available seemed to be a distinct subspecies of *A. armata*. However, two more, smaller males from the same lot, in all respects, also superficially, similar to the nominate form of *armata*, are decisive of the fact that the large and dark specimens represent only a form of that species — peculiar enough to receive a name.

#### GLYPHIPTERIGIDAE

#### ***Metapodistis perculata* spec. nov. (fig. 8)**

(*percultus* = highly adorned)

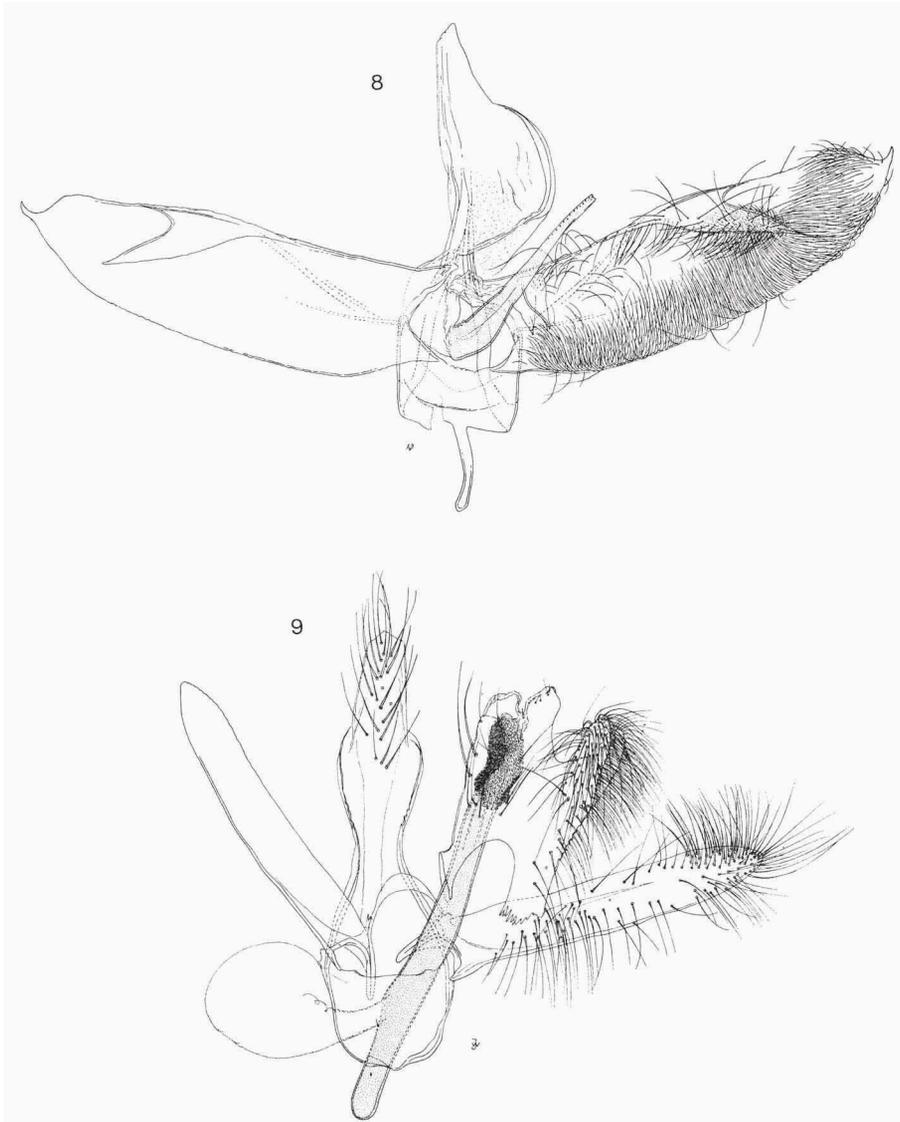
♂ 9 mm. Head and thorax glossy fuscous-bronze with a strong violet gloss. Ocellus small. Antenna bronze. Labial palpus long, curved and ascending, not appressed to face, diverging, exceeding base of antenna, transversely flattened throughout, slightly rough at edges, terminal segment shorter than median, acute; snow-white, edges of median and terminal segments deep purple, frontally these segments with a narrow snow-white median streak, palpus dorsally (inwardly) white. Abdomen shining white with a violet gloss, dorsum and anal tuft throughout light fuscous-purple.

Fore wing oblong, moderately dilated, costa little curved, apex and termen rounded, termen oblique below. Fuscous-purple, glossy. A snow-white slightly inwards-oblique transverse streak at 1/4, straight, very lightly narrowed at ends, from below costa to dorsum; a subparallel, (a trifle less oblique) broader greyish-violet metallic streak from middle of disc to dorsum before its end, on top emitting two concolorous narrow straight branches, to middle and to before 3/4 of costa, respectively; a marginal slightly brighter violet metallic streak, gently dilated towards its middle, from costa before apex, along termen to tornus; a minute whitish point on costa halfway marginal and preceding metallic streak. Cilia fuscous-purple.

Hind wing oblong, hardly dilated, costa and dorsum subparallel, fuscous-

bronze, with a faint golden tinge, hardly paler towards base. Cilia concolorous.

Male genitalia (fig. 8). Tegumen rather high, strongly dilated above base, top pointed, pedunculi strongly sclerotic straight rods, visibly continued as far as lower angles of vinculum; the latter sclerotic, moderate, with a broad



Figs. 8-9. Male genitalia of Glyphipterigidae. 8, *Metapodistis perculata* sp. n., holotype; 9, *Glyphipterix macrodrachma* sp. n., holotype.

dorsal split, saccus slender, as long as greatest height of vinculum. Valva rather narrow and long, with a terminal small crochet, costa with an oblong-triangular fold at basal  $1/3$  and an acute smaller folded flap beyond middle, finely and densely haired, as is the whole sacculus. Aedeagus moderate, less than  $1/2$  valva, very thin, with a clavate base, without coecum.

Taiwan, Kuskusu, 4.iii.1926 (S. Issiki), 1 ♂, holotype, genit. slide 10108. Issiki Collection. USNM.

A distinct species, related to *M. molybdotoma*, but with quite different genitalia. The labial palpi are longer and more recurved, the markings of the

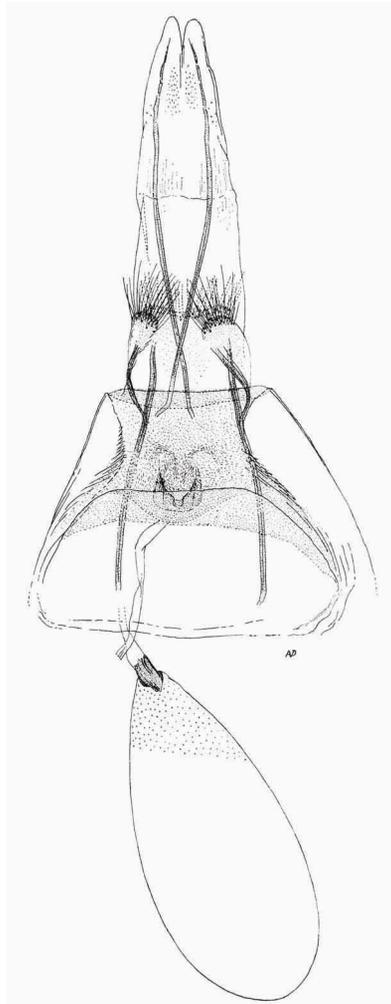


Fig. 10. Female genitalia of *Glyphipterix macrodrachma* sp. n., allotype.

fore wing are quite distinct but resemble those of the last mentioned species. The neuration is congruent.

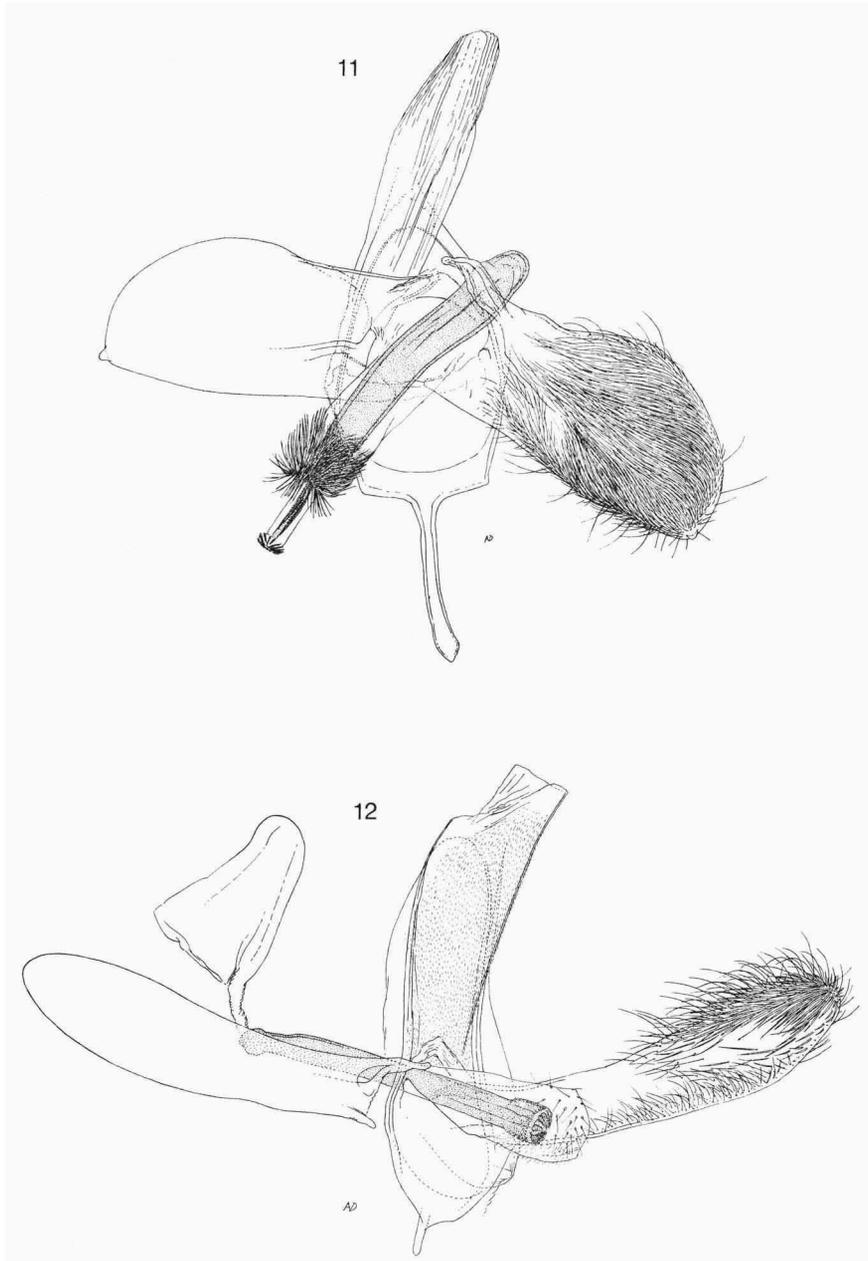
***Glyphipterix maritima*** spec. nov. (fig. 11)

♂ 11 mm. Head light fuscous with brown reflections, sides suffused paler, opalescent whitish in certain lights, face below white. Antenna dark fuscous, silvery-white below. Palpus rather long, porrected and diverging, little curved, slightly shorter than diameter of head; silvery white, posterior half outwardly blackish in certain lights. Thorax deep fuscous-brownish-bronze, tegula at base with a pale spot. Abdomen purplish-black, venter silvery-greyish.

Fore wing oblong, moderately broad, costa gently curved at ends, apex moderately rounded, termen not sinuate, oblique. Deep fuscous-purple, apical part from beyond middle of costa to about middle of termen partly filled out with orange-yellow. A transverse, slightly inwards-oblique band at about  $1/5$ , white with golden reflections, gently excurved, strongly narrowed on costa, slightly constricted halfway between fold and dorsum, rather angularly dilated posterad above middle, gently dilated on dorsum, on costa preceded by two white dots; five rather short, somewhat irregular white costal streaks: three anterior tolerably parallel, moderately oblique, two posterior less oblique; first streak before middle, slender, little curved, becoming silvery below, second and third rather wedge-shaped, at  $1/3$  and beyond  $3/4$ , respectively; all rather short, third to fifth equidistant, ultimate before apex; orangeish colour filling out less than posterior half of costa, gradually turning light purplish in middle of disc, emitting projections between white costal streaks, not quite reaching costa and leaving thick edges to white streaks on both or only on anterior side of white streak; a small white mark on costa before second white streak, continued as an orangeish oblique line to middle of disc; second white streak metallic blue below; a pale yellow patch on  $3/4$  of dorsum, quadrate in right, somewhat excised above, in left wing, on both sides edged with elevated silvery-violet thick streaks edged with purplish, and with some metallic and pale yellow small dots above patch; a thick violet-metallic spot in tornus, a round smaller one on termen below apex. Cilia (rubbed) purple at base, paler towards tips, probably with a small white wedge-shaped mark below apex, but without a "notch".

Hind wing anthracite-bronze, somewhat paler, being semipellucet towards base. Cilia light ochreous, densely mixed with dark grey, a thin ochreous interrupted basal line, along dorsum cilia dark grey throughout.

Male genitalia (fig. 11). Tegumen and vinculum broad, somewhat de-



Figs. 11-12. Male genitalia of *Glyphipterix* spp., holotypes. 11, *G. maritima* sp. n.; 12, *G. pertenuis* sp. n.

pressed, vinculum with lateral angles distinct, almost rectangular. Saccus robust, little clavate, longer than vinculum is high. Valva broad and rather short, broadest beyond middle, costa slightly concave along basal half, thence broadly rounded, sacculus almost straight, top with a small naked knob. Aedeagus but little shorter than valva, slightly dilated before base, top with a brush of long, thin hairs or spines. Vesica crowned with a wreath of crochets. Cornutus, a slender dark tube.

Females are not available.

U.S.S.R., Southern Maritime District, Nature Reserve "Kedrovaya Padj", 23.vii.1974 (Ermolaev), ZIAN. 1 ♂, holotype, genit. slide 10090. ZIAN.

Closely allied to *G. gaudialis* Diakonoff et Arita, from Japan, differing chiefly by the male genitalia. Superficially it differs by narrower fore wing, somewhat paler transverse band and dorsal blotch; the band is constricted above base, while in *gaudialis* it is sometimes narrowed on dorsum but never constricted.

***Glyphipterix macrodrachma*** spec. nov. (figs. 9, 10)

(μακρός = big, δράχμα = a coin)

♂ 10 mm. Head, antenna and thorax rather light fuscous-bronze, with a violet gloss in certain lights. Palpus rather long, curved, flattened outwardly, deep purple, with basal segment below white, median with three narrow transverse white lines, apical segment mixed with a few white scales. Abdomen light bronze-fuscous.

Fore wing oblong-suboval, moderately broad, broadest in middle, costa gently curved, apex rounded, termen deeply concave below apex, gently rounded below this. Rather light and evenly fuscous-golden-bronze, on posterior half becoming deeper bronze-purple and more glossy. Costa with six streaks, first rather before middle of costa, first to third straight and slender, little converging, interspaces 1-3 almost equal; streaks four to six shorter, thicker, slender, wedge-shaped, not curved, posterior about vertical; apex with a black suffused spot; dorsal streak rather wide below fold, abruptly narrowed to a thin line above, semilunar, from middle; second dorsal mark largish, clavate, silvery-violet, like other metallic marks, with above it two big round dots in an oblique series, in a line with second dorsal mark, a larger, suboval dot before lower part of termen; a minute metallic point on top of white subapical "notch" of cilia. Cilia with basal half light greyish-bronze, tips dark purple, apical half of cilia whitish; a black apical stria present.

Hind wing oblong-semioval, rather narrow, pointed; purplish-bronze, paler on basal third, generally paler than fore wing. Cilia fuscous with a bronze gloss.

♀ 10.5 mm. Similar to male, but much paler, probably partly owing to defacing. Fore wing slightly broader, with costal streaks first to third thicker and slightly irregular. The four metallic marks larger still than in male, especially subapical terminal dot; dorsal streak less narrowed above fold. Otherwise similar to male.

Male genitalia (fig. 9). Tegumen long and narrowed in middle. Tuba analis with strong coarse bristles ventrally, irregularly alternate. Vinculum moderate, erected-semioval. Saccus, a minute prominence. Valva narrowly lanceolate, apical third bristly, disc above sacculus with a row of long bristly hairs. Anellus huge, cylindrical, top split in two dorsal and one shorter ventral horn-like prominences, the ventral flanked by densely hairy obtuse processes. Aedeagus rather long and slender, gently sinuate, with a long coecum penis, top densely spined, constricted above base, orifice oblique.

Female genitalia (fig. 10). Sterigma transversely trapezoidal, broader than high, posterior edge with a crescentic punctulate (darker) edge. Anapophyses with strong furcations and semicircular sublateral sclerites, densely bristly along rounded posterior edge. Postapophyses long and extremely slender. Lobi anales weak, pointed. Ostium bursae oval, flanked by punctulate tumescencies. Ductus bursae slender and moderately long, cestum thick but rather short, with usual folds. Corpus bursae oblong-ovoidal.

China, Province Chekiang, West Tien-mu-shan, 29.vii.1932 (H. Höne), 1 ♂, holotype, genit. slide 9185; the same locality and collector, 24.v.1932, 1 ♀, allotype, genit. slide 9186. MAKB.

A moderate species with a drop-like dorsal streak, resembling that in certain species of the *equitella* group (e.g. *G. pygmaeella* Rebel), but only little smaller than *equitella* and with peculiar and very distinct genitalia in the two sexes, males resembling those of *alpha*, with regard to the aedeagus, and *beta*, concerning the complicated anellus. The female ostium is unique in the genus.

### **Glyphipterix pertenuis** spec. nov. (fig. 12)

(*pertenuis* = very slender)

♂ 7 mm. Head and thorax greyish-purple with a bright golden gloss. Antenna fuscous-bronze, minutely pubescent. Labial palpus rather long, curved and ascending, slightly flattened dorso-ventrally, pointed; below pale ochreous, towards tip slightly infuscated, above silvery-white; apical segment as long as median. Abdomen greyish-bronze.

Fore wing oblong-lanceolate, apex produced, narrowed and pointed, costa gently curved throughout, slightly concave before apex, termen very oblique, slightly excavate below apex, obliquely rounded below. Greyish-bronze with a strong golden gloss. Costa with seven white marks, on both sides faintly edged with fuscous suffusion; first streak moderate, from middle, second similar, gently converging, not reaching middle of disc, following marks small short, almost dot-like, about equidistant and decreasing in size posteriorly; a black dot in apex; dorsal streak from before middle, long and slender, gradually curved, narrowed and pointed, only base more abruptly dilated, its tip not quite reaching below tip of first costal; second dorsal streak ill-defined, linear, tending to reach tip of second dorsal; discal metallic dots disappeared, probably due to rubbing. Cilia missing.

Hind wing lanceolate, moderate, pointed, costa and dorsum similarly curved; light bronze. Cilia missing.

Male genitalia (fig. 12). Resembling those of *G. heptaglyphella* and *sulcosa*, but with a distinct saccus: very slender and externally  $1/3 \times$  the height of the vinculum, that is much longer than in the first named species (where there is only a rounded very short stump) and much thinner and also longer than in *sulcosa*. Valva narrow, rather clavate, top gradually rounded, costa hardly more flattened than sacculus, more than apical third with an oblique area of slender pointed spines mixed with fine hairs, disc along sacculus finely strewn with short-bristly hairs from beyond top to beyond middle. Aedeagus longer than in both *heptaglyphella* and *sulcosa*, with less clavate base and tubular cornutus, longer and not narrowed, as in *heptaglyphella*.

N. Africa, Tunisia, El Ariana, 12.v.1913, 1 ♂, holotype, genit. slide 9349. RMNH.

**Glyphipterix ametrus** spec. nov. (fig. 13)

(ἀμνηρίσις = reaper)

♀ 13.5 mm. Head and thorax pale ochreous-grey, with a slight golden gloss, thorax with a broad dark brown median longitudinal stripe. Antenna grey-fuscous. Palpus moderately long, exceeding base of antenna, curved, subascending, strongly flattened dorso-ventrally; snow-white dorsally, dark fuscous ventrally, basal segment and base of median white, top of this colour cuspidate, median segment with a very oblique subapical white line, apical segment with a convergent submedian and a short subapical white line. Abdomen glossy grey-fuscous.

Fore wing with costa straight, moderately curved towards apex, apex rounded, termen sinuate, oblique, appearing notched. Rather light glossy

fuscous along more than basal half, less than apical half suffused with dull yellow, except along narrow costal edge. Costa with six straight white streaks, edged on both sides with deep fuscous suffusion; three anterior streaks linear, moderately converging, third of these, shorter; three posterior streaks rather wedge-shaped, shorter, subparallel with each other and with third streak; dorsum with a large semi-scythe-shaped, white mark from about  $2/5$ , to middle of disc, gradually excurved and narrowed, edged on both sides with darker fuscous suffusion; anterior edge of yellow suffusion limited by second costal streak and tips of this and first streak, slightly projecting anteriorly around top of dorsal mark, thence concave and slightly produced

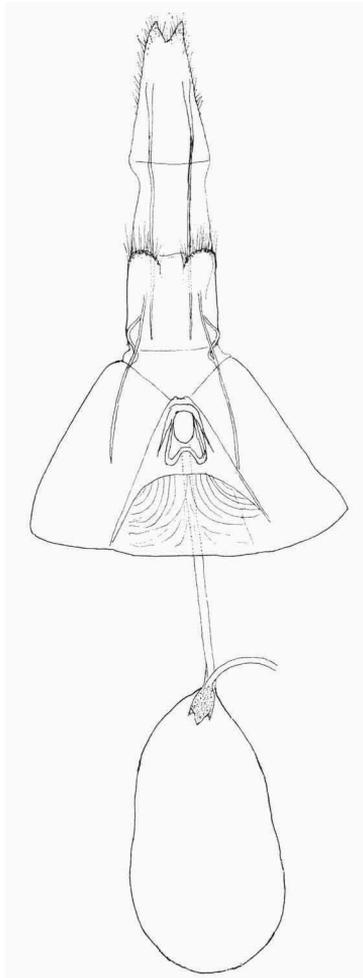


Fig. 13. Female genitalia of *Glyphipterix ametris* sp. n., holotype.

along dorsum; metallic marks pale violet below middle of wing, silvery above middle: a slightly oblique blotch before end of dorsum, on both sides edged with dark brown, a smaller round dot above and in the same line as this, and a third larger round silvery dot above and beyond the second; a little oblique, erect-suboval and slightly excurved pale violet blotch on end of termen; a round spot of dark fuscous suffusion between this and preceding metallic markings; a small silvery dot on dorsum below apex; apex filled out with black. Cilia white, basal half silvery with a dark purplish parting line, apical cilia with a black line above apex.

Hind wing dull fuscous, becoming dark brownish-fuscous along costal third and in apex, somewhat paler elsewhere. Cilia concolorous, paler along costa.

Female genitalia (fig. 13). Ovipositor rather slender, extensile, without apical spines. Eighth sternite with large, semioval naked lateral lobes, long-bristled only along edge of their upper halves. Postapophyses twice as long as anapophyses, both pairs very slender. Sterigma, a moderate, darker cone, with truncate extreme top and deeply concave base, a peculiar sclerotic, inverted-subcardiform slightly erected rim, excentrically enclosing an erect-oval ostium. Colliculum indefinite. Ductus bursae moderate, with a basal cestum: a sclerotic ovoidal structure with pointed bottom; ductus seminalis originating beside end of ductus bursae. Corpus bursae oblong-oval, signa absent.

Taiwan, Kuskusu, 24.iii.1926 (S. Issiki), 1 ♀, holotype, genit. slide 8784. Issiki Collection. USNM (Slide no. 24425). Paratype, ♀, with exactly the same labels, abdomen intact. RMNH.

The species is very similar to *G. semiflavana* Issiki, but differs by a much larger and stronger dorsal mark and differently shaped costal streaks and metallic markings, as well as the extension of the yellow colour; but above all the species is very distinct by the female genitalia.

***Glyphipterix persica*** spec. nov. (fig. 14)

(περσικός = Persian)

♂ 8 mm. Head light fuscous-bronze, orbits white. Antenna bronze, white-banded, scape and basal segment of flagellum below, white. Palpus rather long recurved and ascending, not appressed to face, exceeding base of antenna; strongly transversely compressed, with four usual, gently converging transverse bronze streaks, terminal segment with a longitudinal streak, pointed. Thorax glossy bronze. Abdomen fuscous-bronze.

Fore wing sublanceolate, long and narrow, little dilated, apex obtusely pointed, termen almost straight, strongly oblique. Brightly glossy bronze,

turning purplish on posterior third, apex filled out with jet-black. Five costal white marks slightly tipped with silvery metallic, from middle to apex, anterior three marks narrow, gently curving below, oblique, second slightly closer to first, third shortest and most excurved; posterior pair thicker, pure white, gently inwards-oblique, unequal: fourth triangular, fifth linear, narrowly wedge-shaped; first dorsal mark slightly beyond middle, long and slender, gently dilated above base only, steeply rising, only apical third curving out horizontally, point very narrow; second dorsal in tornus, vertical, very narrow, anteriorly edged with a small ridge of elevated scales; tip of mark indistinctly connected by a narrow metallic line with tip of second costal mark; a violet-metallic indistinct oblong mark before termen, a round dot on end of "notch" of cilia. Cilia pure white, basal half fuscous with a broad black dividing band, suffused anteriorly, with a white "notch" below apex, a black marginal line above apex.

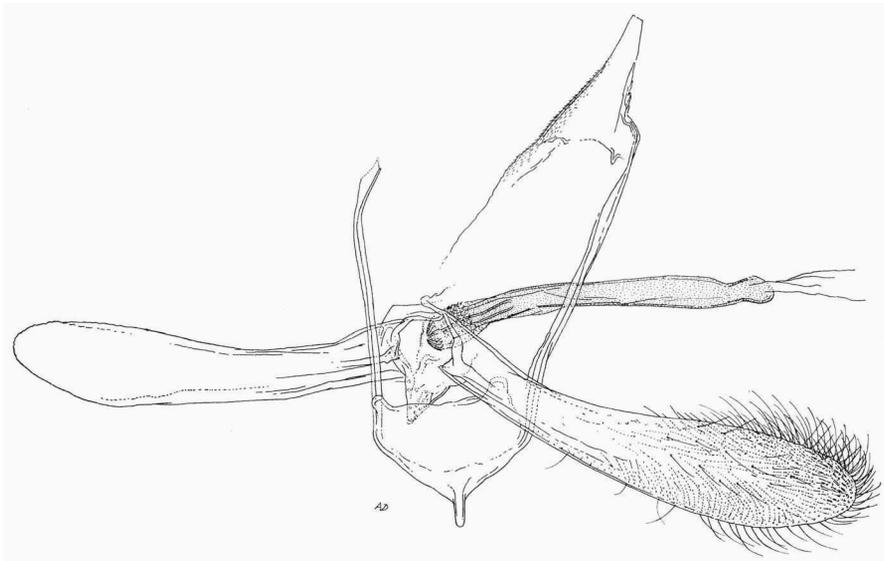


Fig. 14. Male genitalia of *Glyphipterix persica* sp. n., holotype.

Hind wing suboval-lanceolate, evenly greyish-bronze, with a faint gloss, cilia fuscous.

Male genitalia (fig. 14). Tegumen moderately broad. Tuba analis pointed. Vinculum moderate, above gently narrowed, saccus slender, short and straight. Valva slender, narrow at base, with a long, thin processus basalis, thence valva rather excurved, gradually dilated above and below, costa and sacculus thinly haired along posterior half only. Aedeagus rather thin, gently

sinuate, constricted before base; top rather clavate and spiny, cornutus, a dark tube.

Iran, Pass 80 km westl. v. Shiraz, 14.v.1970 (Exp. Mus. Vind.), 1 ♀, holotype, genit. slide 10099. NHMW.

A small species of the *simpliciella* group with long, narrow fore wings and a slender and long dorsal mark. The male genitalia approach those of *G. pygmaeella* Reb., but tegumen is broader, valva narrower at base, with a long and slender processus basalis, and saccus, as well as aedeagus is more slender; in *schoenicolella* tegumen is much larger and wider and aedeagus thicker, in *fortunatella* the saccus is longer and markings decidedly different.

**Glyphipterix forsterella** forma **nivicaput** nov.

♂♀ 9-10 mm. Head white. Palpus entirely white. Not only throat but the whole breast and pleurae silvery greyish-white. Abdomen with venter fuscous-silvery, anal tuft in male with top silvery-white. One female with head and thorax white touched with greyish.

Otherwise entirely similar to the nominate form, flying along (one ♀) with the white-headed specimens.

Japan, Honsyû, Kinki, Kyôto, Hanase, 7.viii.1956 (S. Issiki), 1 ♂, holotype, genit. nr. 10062, 1 ♀, allotype, genit. nr. 10063; paratypes, 4 ♂, 1 ♀. Issiki Collection. USNM.

Holotype, ♂/Gen.no. 10062 A. Diak./Honsyû, Kinki, Kyôto, Hanase, 7.viii.1956, S. Issiki/Issiki Collection, 1972 (print)/USNM. Honsyû, Kinki, Kyoto, Hanase, 7.viii.1956 (S. Issiki), 4 ♂, 2 ♀, genit. slides 10063 ♀, allotype, all paratypes. USNM, ZLMU and RMNH.

A single specimen of the nominate form was collected flying along with the present form (cf. above, sub. *G. forsterella*).

List of the used abbreviations for the whereabouts of the material: MAKB = Museum Alexander Koenig, Bonn, Germany; NHMW = Naturhistorisches Museum Wien, Austria; RMNH = Rijksmuseum van Natuurlijke Historie, Leiden, the Netherlands; UANK = Ukrainian Academy of Sciences, Kiev, USSR; USNM = United States National Museum, Washington, D.C.; ZIAN = Zoological Institute of the Academy of Sciences, Leningrad, USSR; ZLMU = Zoological Laboratory, Faculty of Agriculture, Meijo University, Nagoya, Japan; ZMKD = Zoologisk Museum, København, Denmark.

REFERENCES

- CLARKE, J. F. G., 1955. Catalogue of the type specimens of Microlepidoptera in the British Museum (Nature History) described by Edward Meyrick, 1: 322 pp., 1 fig., 4 pts.

- DIKONOFF, A., 1968. Microlepidoptera of the Philippine Islands. — U.S. Nat. Mus. Bull., 257: 484 pp., 846 text-figs.
- , 1977. Rearrangement of certain Glyphipterygidae sensu Meyrick, 1913, with descriptions of new taxa (Lepidoptera). — Zool. Verh., 158: 55 pp., 35 text-figs.
- FLETCHER, T. B., 1921. Life-histories of Indian Insects. Microlepidoptera. — Mem. Dept. Agric. India, Ent., 6: 217 pp., pls. 1-68.
- , 1933. Life-histories of Indian Microlepidoptera (Second series). Cosmopterygidae to Neopseustidae. — Imp. Counc. Agric. Res., Sci. Mon., 4: 85 pp., pls. 1-77.
- INOUE, H., 1954. Check List of the Lepidoptera of Japan, 1: 112 pp.
- MEYRICK, E., 1912. Exotic Microlepidoptera, 1: 640 pp.
- , 1913. Lepidopterorum Catal., 13, Carposinidae, Heliodinidae, Glyphipterygidae: 53 pp.
- , 1936. Exotic Microlepidoptera, 4: 642 pp.