LEPIDOPTERA II

PYRALIDAE

BY

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The material collected during the expedition of His Royal Highness Prince Léopold of Belgium and kindly submittel to me for determination and description by the « Musée royal d'Histoire naturelle de Belgique », has been of considerable interest though it contained comparatively few species belonging to this large and widely spread family.

The study of *Pyralidae* affords considerable difficulties as the definitions of species and genera are frequently much too vague to give any degree of certainty, while even in several cases genera are placed in the wrong tribes. I have considered it therefore my duty to disentangle some of the problems in which this family abounds, instead of simply supplying a list of names, with the new genera and species tacked on, as this would only have added to the confusion.

The material collected on this expedition contained several of these problematic cases and it was therefore necessary to study other material in conjunction with it and make numerous microscopic preparations of material from my own collection as well. It is hoped by the author that this contribution may lead to a more thourough study of this interesting family.

Many tribes were conspicuous by their absence in the material submitted and this I attribute to two causes, firstly the methods of collecting (little collecting by lamplight can have been done), secondly the type of country in which collecting was done, which must have been mainly forest country. Of the savanna representatives there were very few and of these only one could be identified; while the absence of *Nymphulini* may point to the avoiding of standing water. A very peculiar thing is the total absence of *Pyralidini* in this collection.

The following tribes were not represented : *Galleriini, Anerastiini, Chrysaugini, Endotrichini, Pyralidini,* and *Scopariini.* Of the *Phycitini* only a few

specimens were collected but these were unfortunately fragments and could not be identified at all. The preponderance of *Pyraustini* in this collection points to almost exclusive daylight collecting.

CRAMBIINI.

Crambus argenticilia Hmpsn.

Only one ♂ specimen, rather worn, collected by Prince Léopold at Lomira (New Guinea), on March 20th 1929.

SCHŒNOBIINI.

Schœnobius bipunctiferus Wlk.

One ♀ only, without abdomen but otherwise well preserved from Tonsea Lama (Celebes, Menado), 23.II.1929; collected by Van Braekel.

Cirrhochrysta diploschalis Hmpsn.

One ♀ from Tonsea Lama (Celebes, Menado), 22.II.1929 (Van Braekel).

EPIPASCHIINI.

Lamida sordidalis Hmpsn.

One ♀ only from Samarinda, E. Embouch. Mahakan (Borneo) caught at light on 9.II.1929.

So far only females are kown to me, so the generic position of this species is not quite certain.

Craneophora haraldusalis Wlk.

Two ♂♂ from Tonsea Lama (Celebes, Menado), 25-29.II.1929 (Van Braekel).

Orthaga chionalis Kenr.

Two ♂♂ from Tonsea Lama (Celebes, Menado), 22-28.II.1929 (Van Braekel).

These two ♂♂ are smaller than the ♀ wich was kindly presented to me by Sir George H. Kenrick and which was one of the series from which the description was made. The two ♂♂ also have the white basal patch in the forewing, as in the case with this ♀.

PYRAUSTINI.

Rhimphalea ochalis Wlk.

One ♀ from Tonsea Lama (Celebes, Menado), 27.II.1929 (Van Braekel).

Syngamia latifusalis HMPSN.

One ♀ from Tonsea Lama (Celebes, Menado), 28.II.1929 (Van Braekel).

Bocchoris telphusalis WLK.

One ♀ from Tonsea Lama (Celebes, Menado), 22.II.1929 (Van Braekel).

Coptobasoides GEN. NOV. (figs. 69-73, 76, 77).

GENOTYPE : *léopoldi.*

Proboscis well developed; labial palpi upturned (figs. 70, 72) well curved, third joint small, hidden in scales; all joints evenly covered with scales in front, second joint tipped with long hair near termen on inner side; maxillary palpi minute, three jointed, tufted with scales; frons evenly rounded; basal joint of antennae (fig. 71) terminally swollen, produced on one side and tufted with long scales on innerside, second joint towards innerside with a longer and much narrower process, terminally covered with hairs; remainder of antennal shaft rather flattened and finely ciliated; hindtibia (fig. 73) with 4 long spurs, median outer spur less than half of inner, terminal outer spur a little over one-third of inner; first tarsus broadened and densely covered on outer side with moderate scales, on inner side with a series of broad, spaced bristles, so as to give the appearance of a comb. *Forewing* : (fig. 69) somewhat elongate; costa arched towards apex; termen oblique, curved; apex a little rounded; Sc, R1 and R2 almost parallel; R2 very close to long stalk of R3 and R4, but certainly two distinct veins; R3 and R4 on a stalk of two-thirds of R4 and from near upper angle; R5 from upper angle and remote from stalk; M1 from a little below upper angle; M2 and M3 approximated to each other for a short distance; M3 from lower angle; C1 from well before lower angle; C2 from beyond three-fourths of lower median; A2 forked at base. *Hindwing* : subtriangular with costa slightly, termen and tornus strongly arched, apex rounded; RS and M1 very shortly stalked; RS anastomising with Sc from two-fifths to three-fifths of Sc; M2, M3 and C1 shortly approximated to each other and from close to lower angle; C2 from two-thirds of lower median; A1, A2 and A3 straight and well developed.

Male genitalia : (figs. 76, 77) tergite broad and with a curved, inwardly pointing process at base on each side; uncus rather short, broadened towards tip and there covered with stout, inwardly directed hairs; sternite rather broad at base; valve rhomboid; costa strongly angled before middle and well sclerified, termen oblique, tornus rounded; a long, curved, narrow process from middle of base; innerside of valve rather thinly covered with hairs of various structure, all mainly pointing to centre of valve; a brush of hairlike scales from innermargin on outerside; aedeagus stout, almost straight; vesica with a series

of about fourteen long cornuti; a pair of coremata from the membrane near base of valves, consisting of hairlike scales and woolly hairs mixed.

At first it was thought that the genotype belonged to *Coptobasis*, which resembles the genotype somewhat, but the palpi are different (fig. 75), the basal joint of the ♂ antennae is different (fig. 74) and the comblike structure of the hindleg is absent in *Coptobasis sulcialis*; the ♂ genitalia (figs. 78, 79, 80) are quite different and show that *Coptobasis* comes nearer to *Sylepta*; here the coremata are of a very complex nature (fig. 79) while the cornuti are absent. The venation is almost identical to that of *Coptobasoides*, but it is also wrongly placed in the *Nymphulini*, as the genotype (*C. sulcialis*) has certainly R2 free from the stalk of R3 and R4.

I consider *Coptobasoides* to come nearest to *Caprinia*, as the ♂ genitalia point to this when compared with *C. diaphanalis* and *C. margaronialis*. It differs, however, from this genus in the structure of the aedeagus and in other details.

Coptobasoides léopoldi spec. nov.

♂. General colour glossy sepia (XXIX), tinged with fuscous along costa of forewing, towards termen and on the cilia; wings in certain light with a dusky slate-violet sheen (XLIII); prothorax and abdomen on underside glistening light buff (XV).

EXP. : 38 mm.

HAB. : ♂ type, Tonsea Lama (Celebes, Menado), 27.II.1929; paratype 22.II.1929 (slightly damaged and from this specimen the microscopic preparations were made). Both collected by Van Braekel.

I have the honour of naming this interesting species after His Royal Highness Prince Léopold of Belgium.

Caprinia margaronialis WLK. (figs. 83, 84).

One ♂ from Tonsea Lama (Celebes, Menado), 28.II.1928 (Van Braekel).

This form was considered by Hampson to be the same as *C. diaphanalis* but a comparison of the genitalia of both shows that they may be considered distinct though very close to each other. The uncus, subscaphium and aedeagus are practically the same, but the valve in *diaphanalis* is broader and has the costal sclerified edge loose from the central portion of the valve, the upper process near the base is somewhat stouter and curved in a different direction, while the lower process is at the middle of the valve and much shorter; the juxta is much longer and narrower than in *margaronialis*.

C. diaphanalis misses the fuscous striae on the veins of the forewing.

Nevrina procopia CRAM.

One ♂ from Buitenzorg (Java) (in rather worn condition).

Phostria analis SNELL.

One ♂ from Tonsea Lama (Celebes, Menado), 24.II.1929 (Van Braekel).

Dichocrocis punctiferalis GUEN.

Two ♂♂ from Tonsea Lama (Celebes, Menado), 22 and 28.II.1929 (Van Braekel).

Dichocrocis renidata F.

One ♀ from Tonsea Lama (Celebes, Menado), 22.II.1929 (Van Braekel).

Lamprosema insolitalis WLK.

One ♂ from Tonsea Lama (Celebes, Menado), 24.II.1929 (Van Braekel).

Prorodes mimica SWINH.

One ♀ from Tonsea Lama (Celebes, Menado), 24.II.1929 (Van Braekel).

Sylepta sabinusalis WLK.

One ♂ and one ♀ from Tonsea Lama (Celebes, Menado), 22 and 28.II.1929 (Van Braekel).

Sylepta vanbraekeli spec. nov. (figs. 81, 82, 90).

Head, thorax above, abdomen and wings whitish-yellow, tinged with light orange-yellow (III); lower half of palpi, thorax below, and legs glistening whitish; wings above more or less covered with iridescent scales, except on the veins, and along costa and outer margin in forewing and outer margin in hindwing; costa of forewing, markings and area along outermargin of both wings drab (XLVI); upper half of palpi ochraceous-buff (XV). *Forewing* : a few diffused small, orange-buff (III) subbasal marks near innermargin; antemedial line diffused, curved and becoming orange-buff near innermargin; an elongate, diffused, but distinct cell-spot; postmedial from beyond two-thirds of costa, somewhat diffused, almost erect to before M3, then bulging outwardly to beyond C1, then indistinct inwardly above C2 to one-third of C2, then distinct to innermargin and excurved on A2; a diffused, subterminal fascia (often interrupted on the veins, and broadest near costa) from near apex to tornus; cilia concolorous. *Hindwing* : whitish at base and near innermargin; a diffused, elongate cell-spot; postmedial oblique from near costa at two-thirds, forming a small dent between M3 and C1 and a larger one at C2, then inwardly along and above C2 till two-thirds of C2, then to innermargin at two-thirds, becoming faint beyond

A2; a subterminal fascia as in forewing, but a little nearer to outermargin; cilia concolorous.

♀ like ♂, but forewing a little broader; antennae simple and hardly compressed; antennae in ♂ somewhat compressed, finely and closely ciliated on inner side.

♂ genitalia (fig. 81) : Uncus broad, bluntly ending and with the edges slightly curved around the anus; below anus two narrow, outwardly pointed processes, which are fused at the tips, forming the gnathos; tergite rather broad; sternite narrow, broadened towards base, forming the saccus; valve broad, suboval, well sclerified along costa, which forms a hollow tube, remainder of valve slightly sclerified except along innermargin, which forms a point almost joining the two valves at base; two broad processes from base of valves at costa, which are only connected by a membrane; a well sclerified, curved process on innerside near base just above innermargin; tergite and valves on outerside covered with very long hairs; valves on innerside with short hairs and long hairs along the edge, each from a papilla; a broad corema, densely covered with very long hairs, from base of each valve on outerside; aedeagus straight, moderate; one stout, moderate cornutus on vesica; no anellus.

This species comes very close to *Sylepta fraterna* Moore, but this species differs from it in being smaller, in its forewing having a rounded spot at innermargin near base and another in cell beyond the antemedial: there is also hardly any iridescent gloss; the genitalia (fig. 82) (which were prepared from a specimen from the type locality kindly and most critically compared for me by Mr. W. H. T. Tams) also show specific differences : the uncus is shorter, the valves are narrower and the processes on them are longer; the cornutus is more than double the length of that of *vanbraekeli*, while the aedeagus is shorter and somewhat thicker. It also resembles *S. balteata* F., but this species also has a spot in the cell beyond the antemedial, the lines appear more as spots and the subterminal fasciae of both wings are quite spotty, owing to the interruption of a bright yellow on the veins.

Only one ♀ type in the collection submitted to me from Sakoemi (New Guinea), 12.III.1929, collected by Prince Léopold, but several others in my own collection.

EXP. : 34-39 mm.

HAB. : ♂ type from Arfak Mountains (N. New Guinea), 4000 ft. February to March 1909 (collected by C. B. Pratt); 6 paratypes ♂♂ from Arfak Mountains, Assam (Khasia Hills, Brit. India) and from Fergusson Island, X, 1894, collected by A. S. Meek; 2 ♀ paratypes from Ninay Valley (Dutch N. Guinea), 3000 ft. Nov.-Jan. 1909, and one from Assam (Khasia Hills).

Agathodes ostentalis GEYER.

One ♀ from Tonsea Lama (Celebes, Menado), 22.II.1929 (Van Braekel).

Margaronia (*) **bivitralis** GUEN.

Two ♂ specimens; one from Sumatra, IV-V 1929 (collected by Prince Léopold) and one from Tonsea Lama (Celebes, Menado), 24.II.1929, by Van Braekel.

Margaronia deliciosa BUTL.

Two ♂ specimens from Tonsea Lama (Celebes, Menado), on 22 and 24.II.1929, by Van Braekel.

Margaronia naralis FELD.

One ♂ from Tonsea Lama (Celebes, Menado), on 22.II.1929, by Van Braekel.

Margaronia margaritaria CRAM.

Two ♂ specimens from Tonsea Lama (Celebes, Menado), on 27 and 29.II.1929, by Van Braekel.

Margaronia marginata HMPSN.

One ♂ from Tonsea Lama (Celebes, Menado), on 23.II.1929, by Van Braekel.

Margaronia vertumnalis GUEN.

Two ♂ and two ♀ specimens from Den Pasar (Bali), 28.I.1929, by Prince Léopold, and Tonsea Lama (Celebes, Menado), 22 and 25.II.1929, by Van Braekel.

Margaronia hilaris WLK.

Two ♂ specimens from Tehgaoreng (Borneo), on 9.II.1929, by Prince Léopold.

Talanga major ROTHS.

One ♀ from Tonsea Lama (Celebes, Menado), on 22.II.1929, by Van Braekel.

This form was originally considered a subspecies of *tolumnialis* Wlk., but from previous studies I was not satisfied with this view for many reasons and a thourough study of the whole of the *Talanga* group as well as many species of the omnibus genus *Margaronia* was consequently made. Well over a hundred

(*) It is highly probable that this genus will have to be broken up into a large number of genera and that some species mentioned here under this name will have to be shifted to such groups after more detailed study.

species, mostly from the type localities, were studied and the results are for the greater part embodied here, where I come to the following conclusions :

1. SPECIES ASSIGNED TO THE GENUS *Talanga* ARE NOT RIGHTLY PLACED IN THE *Hydrocampini*, BUT SHOULD COME IN *Pyraustini*, SOMEWHERE NEAR *Margaronia*. The first reason for this is, that R2 of the forewing is *not* stalked with R3, R4, though it runs very close to it over a long distance (fig. 1). A large number of slides were prepared to make sure of this, and over a hundred specimens were examined ordinarily, in order to make sure of this character. Hampson in his papers on the Hydrocampids and Pyraustids observed the inconstancy of this character in some cases, but stated that in such species the long maxillary palpi are dilated at the extremity, which points to *Hydrocampini*. (Hampson then always means that the hairs spread towards the tip, giving the palpus a dilated appearance, he clearly does not mean the broadening of the last joint of the palpus, such as is seen in fig. 15). On the whole, the genus *Margaronia* is supposed to have such dilated palpi. Also in the description of the genus *Talanga* the labial palpi are supposed to be short, porrect, fringed with long hair below, third joint prominent, maxillary palpi filiform and nearly as long as the labial palpi. This is never the case in any species placed here; at most they are only ½ that length, figs. 3-18.

In *major* and *nympha* the palpi are oblique, in *sexpunctalis* and *tolumnialis* they are somewhat porrect, but of the same STRUCTURE as in *M. exquisitalis*, *M. excelsalis*, *M. magnificalis* and *M. quadristigmalis* (all originally placed in *Margaronia*) except that the proportionate length of the second joint differs and that the curve of the first joint is not always as great. The latter factor naturally determines considerably the more or less obliqueness of the whole palpus. The only palpi that are really different and definitely upturned are those of *sabacusalis* (fig. 10). On the other hand in the true *Margaronia* (in the broadest sense) we find that palpi, such as found in figs. 6, 12, 14, 18, are common (over 200 species have been examined by me for this). Figs. 3, 5, 7, 9, 11, 13, 15, 17 and 19 further show that the structure of the maxillary palpi is hardly helpful for generic distinction as figs. 3, 5, 17 and 19 have *four* joints, figs. 7, 9, 11, 13 and 15 have three joints, while in figs. 11, 13 and 15 there is more tendency to become modified in length and shape, especially in 15; the latter case would bring *Margaronia quadristigmalis* distinctly into the Hydrocampinid group.

Wing markings have in this case been even more misleading. The peculiar mark found near the termen of the hindwing, and even the general pattern of the forewing of all the species originally placed in *Talanga*, resemble many of the Hydrocampids to a remarkable extent, even the metallic scales not failing (figs. 1, 20-28). These markings are so

conspicuous as to render it difficult to distinguish between some of the different species, hence the lumping of *major* and *tolumnialis*, of *nympha* to *sexpunctalis*, possibly even *lomaspilalis* Snell. (Of the latter I have not seen specimens and it may prove to be distinct). I always wondered why *sabacusalis*, *quadristigmalis*, *magnificalis*, and *exquisitalis* were not placed in *Talanga* for the same reason.

2. THE GENUS *Talanga* BELONGS TO THE *Pyraustini, near Margaronia.* The structure of wings and palpi failing, the genitalia gave at once a clue as to the natural position of *Talanga*. The extraordinarly long penis in the ♂ and the correspondingly long ductus bursae in the ♀ brings it close to the 15 species of *Margaronia* and one species each in *Caprinia* and *Noorda*, which all have the unusually long copulatory organs. This character I have not found in any of the true Hydrocampids and in only limited groups of Pyraustids. It should lead indeed to a regrouping of many species of the composite genus *Margaronia.*

In the genotype of *Talanga* we also find one other peculiar structure in the ♂ genitalia. The somewhat weak valves are covered on each side by a saclike corema, which I here term the *pseudovalve* (figs. 29, 30, 33, 35, 39 and 41). This pseudovalve is more conspicuous than the valves are themselves and may at first be taken for them. They are hollow, and the cavity is densely packed with thick, glandular scales; on the outside are very long hairs which become easily detached. In *excelsalis* (fig. 39), this pseudovalve is very small and I have not found it in any other species of *Margaronia*. At the same time four ordinary coremata are found on the very much reduced membranous 8th segment, and another smaller pair comes from between the 7th and 6th segment. In addition a series of, probably glandular, scales are found on the 2nd sternite posteriorly (figs. 29 and 36).

In the ♀ we find two characteristic signa in the bursa of all species which I place in *Talanga* and they are also found in *excelsalis* and some other *Margaronia* (figs. 59-67).

3. *Talanga major* IS A GOOD SPECIES, DISTINCT FROM *tolumnialis*, as the penis is double the length and the ductus bursae nearly three times the length of those in *tolumnialis*, although the length of their bodies is practically the same (figs. 46, 47, 48, 49, 29, 31 and 32). If it is correct to assume that during copulation the vesica has to become distended inside the bursa, it is clear, that this can not happen when the penis is 35 mm. in *major* and only 15,5 mm. in *tolumnialis*. It should be born in mind, that almost the whole part of the penis, measured for the study, is well sclerified, rendering the measurements and proportions of the same organ absolute; on the other hand the ductus bursae is membranous and con-

sequently the figures given here may vary somewhat when many specimens are compared. This, however, does not account for the measurements of 41,5 mm. in *major*, against 14 mm. in *tolumnialis*. Moreover the ♀ body-length of the preparations is 7,5 mm. in both species!

4. *T. nympha* IS ALSO CONSIDERED A GOOD SPECIES, DISTINCT FROM *sexpunctalis*, THOUGH VERY CLOSE. It can be distinguished by the terminal pattern of the hind wing (figs. 20 and 21).

In order to avoid further confusion the following redescription may be useful :

Talanga MOORE, Lep. Ceyl., III, p. 300 (1885).

GENOTYPE : *sexpunctalis*.

Labial palpi somewhat porrect, or in some species obliquely upturned or even upturned, fringed with long scales beneath, somewhat hiding the third joint; maxillary palpi four jointed (in some species three jointed), somewhat broadly scaled at tips; frons rounded, antennae simple; hindtibia with 4 spurs. *Forewing* with retinaculum from lower median and consisting of a large number of hooked bristles; R2 very close to stalk of R3 and R4, almost touching it, *but always free;* R3 and R4 stalked for nearly half of R4; R5 free from near upper angle; M2 from near lower angle. *Hindwing* with RS and M1 on a stalk of one fourth of M1; RS shortly anastomosing with Sc; DC very oblique; M2 and M3 originating very close to each other, from near lower angle and approximated to each other for one fourth; at termen, between M2 and C2, a series of black terminal maculae, often accompanied by metallic iridescent scales and continued in the cilia, leaving some white, sharply defined, but small maculae between.

♂ *genitalia :* Ninth tergite and sternite rather narrow; sternite with a saccus anteriorly; uncus well developed, curved, broadening and becoming somewhat membranous towards tip; valve rather membranous but with a sinuate, well sclerified process from about middle near inner margin, moderately covered with hairs; just outside the valves two broad, sac-like flaps, even larger than the valves (pseudovalves), filled with glandular scales and densely covered on the outside with long hairs (this is undoubtedly a highly modified corema); eighth segment reduced to a very narrow horseshoe-shaped sternite, but provided with two pairs of coremata, densely covered with long hairs and scales; seventh sternite with a narrow process anteriorly, edged with long scales posteriorly and with two lateral, rather small coremata from the membrane between seventh and sixth segment; a row of long scales from posterior edge of second sternite; penis exceptionally long (in genotype nearly twice length of body, in others more), coiled up in a somewhat irregular fashion in the body; the outer part is somewhat membranous, strengthened and stiffened on one side by a narrow sclerified band along side of which is another, narrower, but thicker sclerified band or thin rod, which is probably homologous to a cornutus; to this the vesica

is attached, which sometimes has a large number of minute, fine teeth as in *excelsalis* (fig. 68) (*).

♀ *genitalia :* Ductus bursae exceedingly long, usually much longer than the penis of the same species; bursa more or less globular and provided with two signa, each of which is provided with a number of short projections forming a pattern, probably typical for each species; each signum is surrounded by minute sclerified points.

I place the following species here : *sexpunctalis, major, tolumnialis, nympha, exquisitalis, sabacusalis, quadristigmalis,* and *magnificalis.*

KEY TO THE SPECIES.

1*a*. Forewing with a broad, outwardly oblique, fuscous band from middle of costa to innermargin near tornus; hindwing without metallic scales and with a few black scales at termen . . . . . *magnificalis.*

b. Forewing with the dark medial band never reaching the innermargin; hindwing with patches of black scales and often with metallic scales at termen . . . 2.

(*) Footnote. This kind of penis and ductus bursae is also found in the following species : *Margaronia excelsalis, itysalis, deliciosa, eurytusalis, zelimalis, westermanni, naralis, sectinotalis, bivitralis, eurygamia, quadrimaculalis, doleschali, phytonalis*; *aurocostalis, Caprinia castanealis* and *Noorda margaritalis.*

COMPARATIVE TABLE OF MEASUREMENTS OF THE SPECIES IN THE GENUS *Talanga.*

SPECIES.	Penis.	Ductus Bursæ.	Body length.		Proportion of penis or ductus to body.	
			♂	♀	♂	♀
	mm.	mm.	mm.	mm.		
Sexpunctalis . . .	17	20	9	6	1.88/1	3.33/1
Major	35	41.5	11	7.5	3.18/1	5.5/1
Tolumnialis. . . .	15.5	14	10.5	7.5	1.47/1	1.86/1
Nympha	18.5	19.5	9	6.5	2/1	3/1
Exquisitalis	21.5	22.5	11-12	10	1.8/1	2.25/1
Sabacusalis	24	22.5	10	7.5	2.4/1	3/1
Quadristigmalis. .	20	30	12	8.5	1.6/1	3.5/1
Excelsalis	20	23.7	14	7.5	1.4/1	3.16/1
Magnificalis. . . .	no ♂	36.3	—	9.5	—	3.8/1

2*a*. Hindwing of ♂ fuscous . . . . . *exquisitalis*.

b. Hindwing of ♂ mainly whitish . . . . . 3.

3*a*. Forewing with the fuscous-brown postmedial fascia connected with the medial costal macula at between M2 and C1 and more or less connected with the oblique antemedial fascia, which runs from costa to innermargin . . *quadristigmalis*.

b. Forewing with the postmedial dark fascia not connected by the same colour with the medial costal macula; antemedial dark fascia absent; a dark streak along costa only from base to where antemedial would be . . . . . 4.

4*a*. Nearly the whole hindwing, and the greater part of the forewing, densely covered with glittering mother-of-pearl scales . . . . . *sabacusalis*.

b. Basal half of hindwing without mother-of-pearl iridescent scales and forewing with only small patches of it . . . . . 5.

5*a*. Hindwing with two large black maculae, mixed with some metallic scales at termen, cilia at that place with two white, squarish maculae alternating with three black ones . . . . . *nympha*.

b. Hindwing with three black maculae, of which one is very small and more or less mixed with metallic scales at termen; cilia at that place with four white, squarish maculae of varying size and alternating with five black ones . . . . . 6.

6*a*. Hindwing with two large and one very small black macula at termen, not surrounded by iridescent scales, but with some metallic scales among the black ones . . . . . *sexpunctalis*.

b. Hindwing with two moderate and one very small black macula at termen, surrouded by a number of iridescent scales . . . . . 7.

7*a*. Forewing with the postmedial iridescent fascia beginning well away from costa and not connected with the postmedial iridescent, triangular macula at innermargin; subterminal iridescent fascia rather narrow; hindwing without iridescent scales, or with hardly any beyond the dark medial macula; iridescent scales around terminal black maculæ also rather restricted . . . . . *tolumnialis*.

b. Forewing with the postmedial iridescent fascia beginning from near costa and connected with innermarginal iridescent macula; subterminal iridescent fascia rather broad at C1; hindwing with an iridescent fascia beyond dark medial macula; iridescent scales around termen; black maculae extended well beyond them. *major*.

Terastia quadriferalis Wlk.

One ♀ from Tonsea Lama (Celebes, Menado), on 23.II.1929, by Van Braekel.

This species Sir George Hampson considers to be a synonym of *T. egialealis* Wlk. and is much smaller than any specimens of the latter species known to me. I have carefully compared the ♀ genitalia of both, but these show insufficient differences to prove that they are distinct and I have no ♂ of *T. quadriferalis*. Judging by the wing markings, however, I think they will be found to be two distinct species.

Polygrammodes spissalis GUEN.

One ♀ from Tonsea Lama (Celebes, Menado), on 29.II.1929, by Van Braekel.

Polygrammodes atricosta HMPSN.

One ♂ from Tonsea Lama (Celebes, Menado), on 22.II.1929, by Van Braekel.

The submitted specimen has been kindly compared for me by Mr. H. W. T. Tams with Walker's ♂ type from Amboina and he found the branches of the antennae as well as the antennae themselves much longer in the type. But the type is also much bigger (28 mm.), while this specimen is only 22 mm. Extreme differences in size within the same species is common, however, in this genus.

Pachyzancla (*) **auricolor** spec. nov. (figs. 85-89).

♂. Body and wings lemon chrome (IV); collar, lower part of frons, upper half of palpi, knees of midlegs, markings and cilia en both wings on upperside light seal brown (XXIX). *Forewing :* a broad fascia along basal half of costa with an irregular projection at subbasal, antemedial and medial area, and connected with the ring around the cell-spot; cell-spot of ground colour; a narrow, irregular antemedial line from lower median to innermargin and a medial one from above C2 to innermargin; postmedial line broad at costa, then narrow, curved inwardly to below M1, then angled outwardly to M2, then erect to C2, then faint and angled inwardly just above C2, till it joins the medial line; a terminal border, which is irregular on inner side from apex to tornus, broad from costa to M2, then suddenly contracting till near C2, then bulging on C2 and then suddenly contracting again. *Hindwing;* cell-spot elongate, light seal brown; a narrow, oblique medial fascia from C2 to well before tornus; an irregular, narrow postmedial line from near costa to below C2 and in the set specimens appearing as a continuation of the medial fascia of forewing; terminal border as in forewing.

♂ *genitalia :* Tergite and sternite moderate, the latter forming a very short saccus; uncus long, strongly curved at before middle, then thickening so as to form a curved surface on outerside, and suddenly angled outwardly near tip,

(*) A more detailed study of the genotypes, which is highly desirable, may place this species in a genus by itself but on the whole it agrees well with Meyrick's description and with the genotype, though not with Hampson's description, who considers the labial palpi porrect (which they certainly are not). The palpi are obliquely ascending, as Meyrick states. Whether *Pachyzancla* and *Psara* are the same, is still to be seen, as the genotype of *Pachyzancla* is from Australia and is supposed to extend through India as far as Africa, while the genotype of *Psara* is an American Species.

which is rounded; terminal half of uncus covered with long, inwardly directed hairs; from base of uncus two slender processes, which are spatulate and probably represent the gnathos; a thin, subscaphium, connected with the anus; valve rather narrow, elongate, rounded at tip, costa and termen somewhat parallel; costa sinuate and well sclerified, remainder of valve rather poorly sclerified, a long curved process from near base at middle; valve covered on innerside with moderate hairs; two dorsal coremata from before tergite, not retractable, and covered with very long scalelike hairs; aedeagus rather weakly sclerified, moderate, thickest towards tip; vesica with a long series of short, stout teeth; juxta rather broad at base and somewhat encircling the aedeagus. The palpi are obliquely upturned as the first joint clearly indicates; second joint with a long tuft of scales in front and some scales at the terminal half on innerside; third joint slightly angled towards second joint, and tufted with scales; maxillary palpi three jointed, evenly tufted with short scales; antennae minutely ciliated. *Venation;* R2 is very close to the stalk of R3 and R4, but separate; stalk of R3 and R4 of three-fourths R3; M2 and M3 of hindwing closely approximated to each other near base.

EXP. : 23 mm.

HAB. : ♂ type Tonsea Lama (Tondano-Menado), Celebes, on 22.II.1929, collected by Van Braekel.

Resembles *P. cynaralis* Wlk., but has a much deeper yellow colour, the cell-spot of forewing is of ground colour and the lines are different.

Noorda nigropunctalis HMPSN.

One ♂ specimen from Tonsea Lama (Celebes, Menado), 28.II.1929, by Van Braekel.

EXPLANATION OF PLATES

EXPLANATION OF PLATE I.

Fig. 1. — Wing pattern and venation of *Talanga major;* the white represents the iridescent silvery marks; the pale grey the yellow colour; the dark grey the fuscous brown colour; the black are black scales (× 5).

Fig. 2. — Labial palpus of *T. sexpunctalis* (× 30).

Fig. 3. — Maxillary palpus of *T. sexpunctalis* (× 30).

Fig. 4. — Labial palpus of *T. nympha* (× 30).

Fig. 5. — Maxillary palpus of *T. nympha* (× 30).

Fig. 6. — Labial palpus of *T. major* (× 30).

Fig. 7. — Maxillary palpus of *T. major* (× 30).

Fig. 8. — Labial palpus of *T. exquisitalis* (× 30).

Fig. 9. — Maxillary palpus of *T. exquisitalis* (× 30).

Fig. 10. — Labial palpus of *T. sabacusalis* (× 30).

Fig. 11. — Maxillary palpus of *T. sabacusalis* (× 30).

Fig. 12. — Labial palpus of *T. magnificalis* (× 30).

Fig. 13. — Maxillary palpus of *T. magnificalis* (× 30).

Fig. 14. — Labial palpus of *T. quadristigmalis* (× 30).

Fig. 15. — Maxillary palpus of *T. quadristigmalis* (× 30).

Fig. 16. — Labial palpus of *T. tolumnialis* (× 30).

Fig. 17. — Maxillary palpus of *T. tolumnialis* (× 30).

Fig. 18. — Labial palpus of *Margaronia excelsalis* (× 30).

Fig. 19. — Maxillary palpus of *M. excelsalis* (× 30).

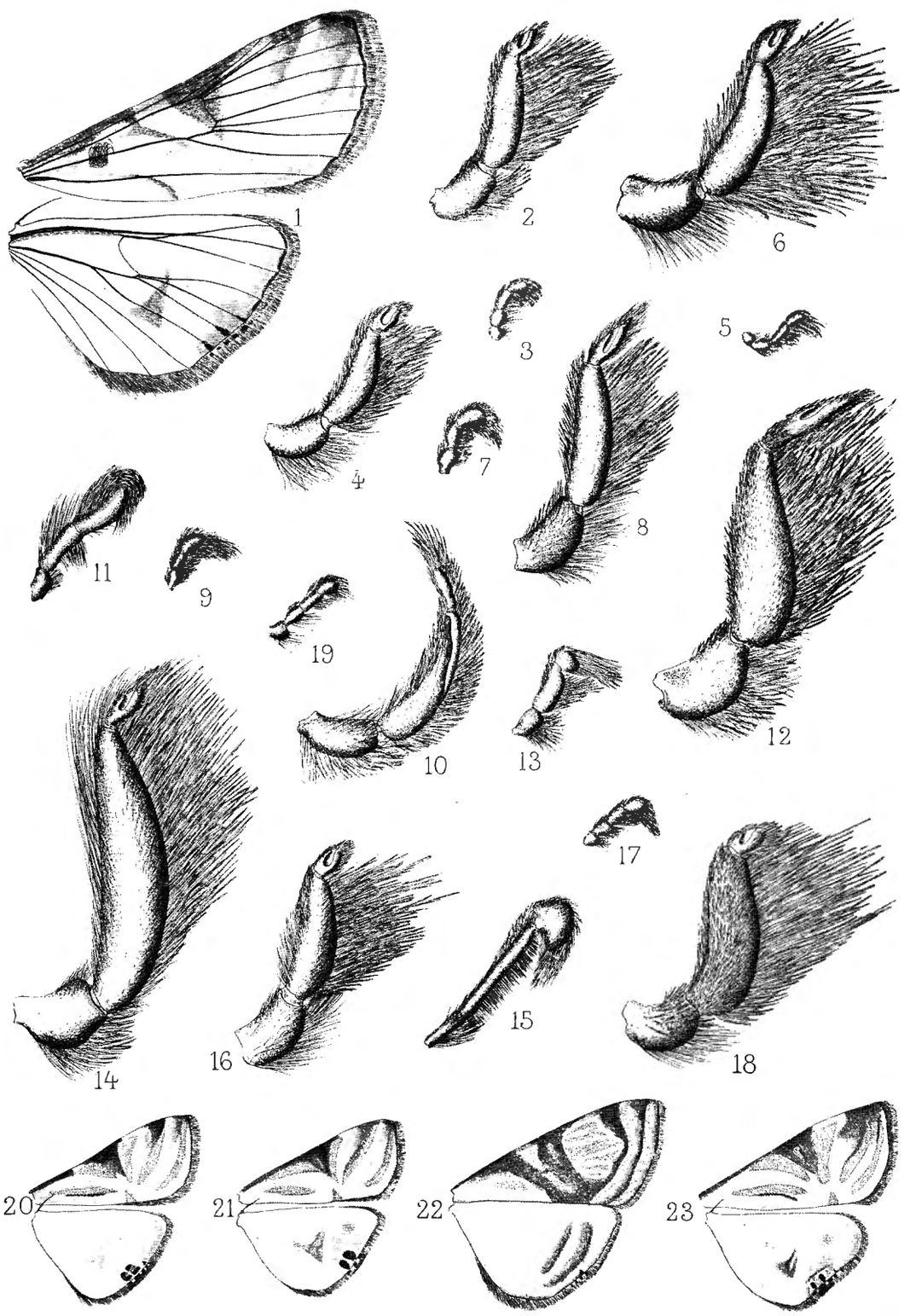
Fig. 20. — Wing pattern of *Talanga sexpunctalis* (× 3).

(In figs. 20-28 the white colour represents whitish scales, the finely dotted parts represent iridescent scales; pale grey is for the yellow colour, dark grey for the fuscous-brown colour; intense black stands for black scales.)

Fig. 21. — Wing pattern of *T. nympha* (× 3).

Fig. 22. — Wing pattern of *T. magnificalis* (× 2 ¼).

Fig. 23. — Wing pattern of *T. tolumnialis* (× 3).



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EXPLANATION OF PLATE II.

Fig. 24. — Wing pattern of *T. major* (× 3).

Fig. 25. — Wing pattern of *T. exquisitalis* (× 2 ¼).

Fig. 26. — Wing pattern of *T. quadristigmalis* (× 2 ¼).

Fig. 27. — Wing pattern of *T. sabacusalis* (× 2 ¼).

Fig. 28. — Wing pattern of *Margaronia excelsalis* (× 2 ¼).

Fig. 29. — Abdomen of *T. talanga sexpunctalis* ♂ seen from the ventral side and with genitalia and coremata fully extended (× 8).

Fig. 30. — Ventral view of ♂ genitalia of *T. sexpunctalis* (× 20).

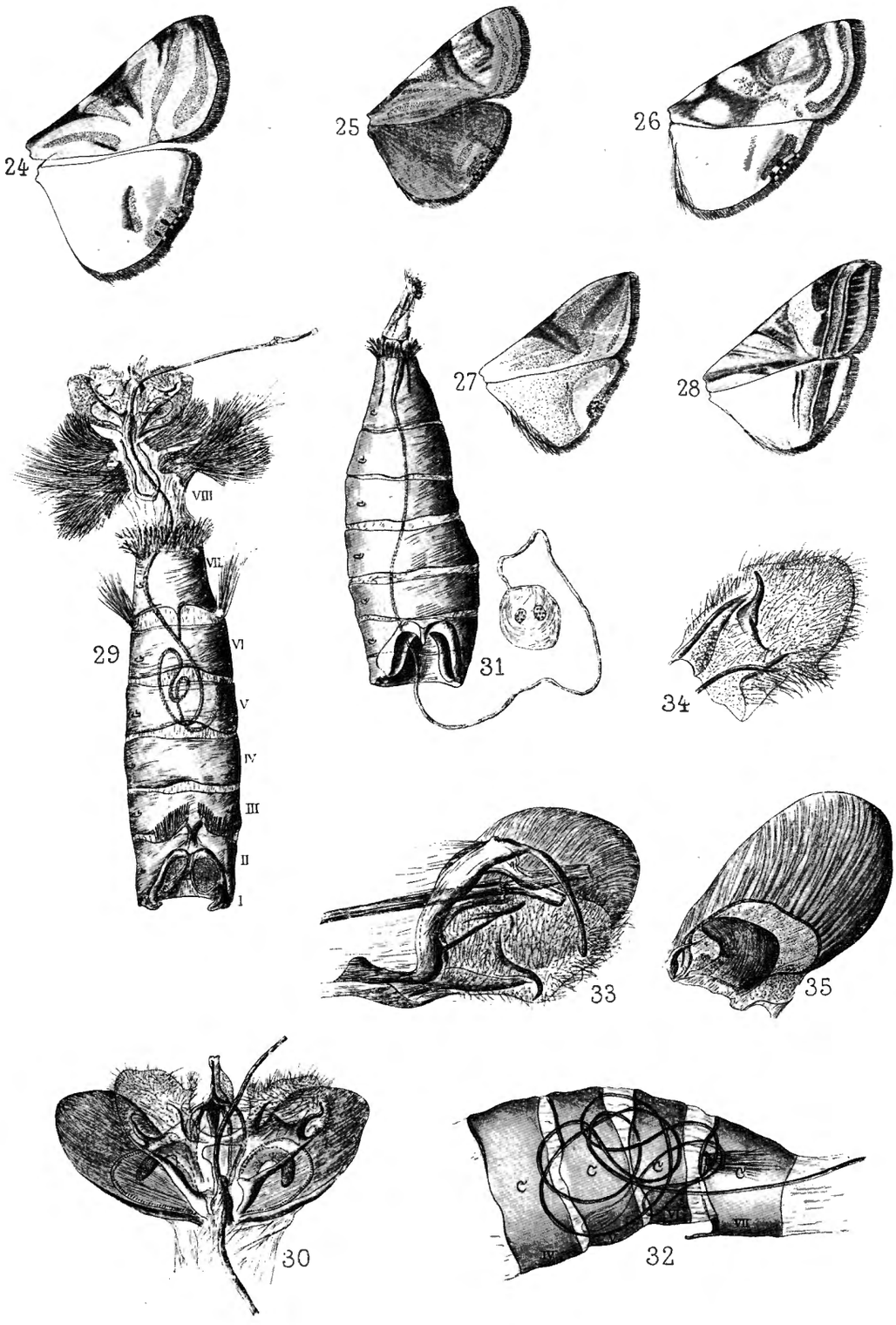
Fig. 31. — Ventral view of ♀ abdomen of *T. sexpunctalis* (× 8).
(The ductus bursae has been extended, but is irregulary coiled up, so that the bursa itself is in about the middle of the abdomen.)

Fig. 32. — Lateral view of portion of abdomen of *T. major*, showing penis in natural position (× 8).

Fig. 33. — Lateral view of the ♂ genitalia of *T. major* (× 20).
(The left valve and pseudovalve are removed and only the terminal end of the penis is shown.)

Fig. 34. — Left valve of *T. major* seen from the inner side (× 20).

Fig. 35. — Left pseudovalve of *T. major* seen from the innerside and showing the hollow sack with a central process in the opening, to which the detachable scales and hairs are attached (× 20).



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EXPLANATION OF PLATE III.

Fig. 36. — Lateral view of tip of ♂ abdomen (fully extended so as to show the coremata) of *Margaronia excelsalis* (× 16).
(The left valve and pseudovalve are removed.)

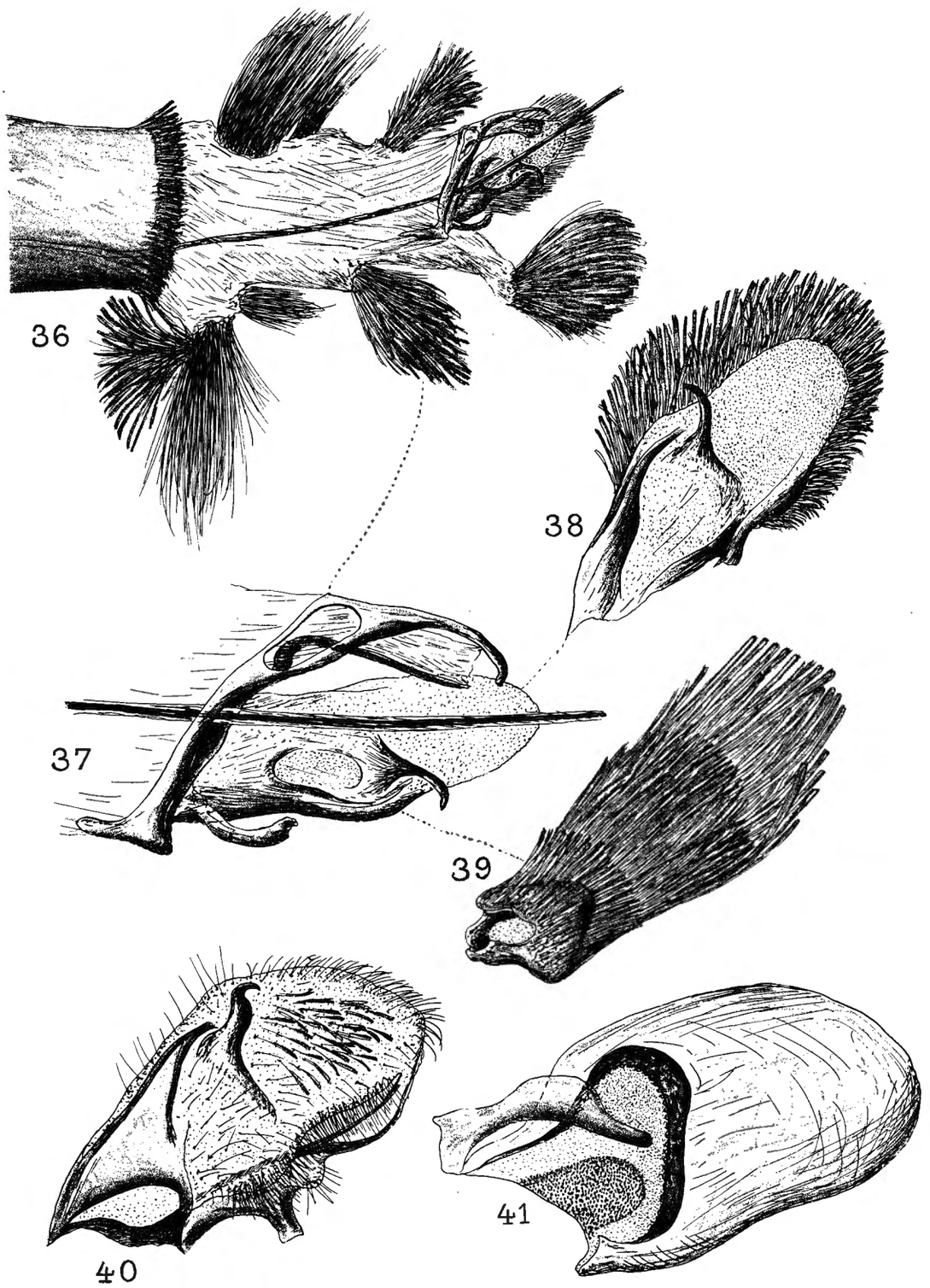
Fig. 37. — ♂ genitalia of *M. excelsalis* (× 40).
(The valve, pseudovalve and hairs removed.)

Fig. 38. — Left valve, seen from the innerside, of *M. excelsalis* (× 40).

Fig. 39. — Left pseudovalve (with its outer scaly covering) of *M. excelsalis*, seen from innerside (× 40).

Fig. 40. — Left valve of *T. quadristigmalis*, seen from the innerside (× 40).

Fig. 41. — Left pseudovalve of *T. quadristigmalis*, seen from innerside ans with scales and hairs removed (× 40).



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EXPLANATION OF PLATE IV.

Fig. 42. — Penis of *Talanga sexpunctalis* (× 8).

Fig. 43. — Ductus bursae and bursa of *T. sexpunctalis* (× 8).
O.b. = ostium bursae.

Fig. 44. — Penis of *T. nympha* (× 8).

Fig. 45. — Ductus bursae and bursa of *T. nympha* (× 8).

Fig. 46. — Penis of *T. tolumnialis* (× 8).

Fig. 47. — Ductus bursae and bursa of *T. tolumnialis* (× 8).

Fig. 48. — Penis of *T. major* (× 8).

Fig. 49. — Ductus bursae and bursa of *T. major* (× 8).

Fig. 50. — Penis of *T. sabacusalis* (× 8).

Fig. 51. — Ductus bursae and bursa of *T. sabacusalis* (× 8).

Fig. 52. — Penis of *T. exquisitalis* (× 8).

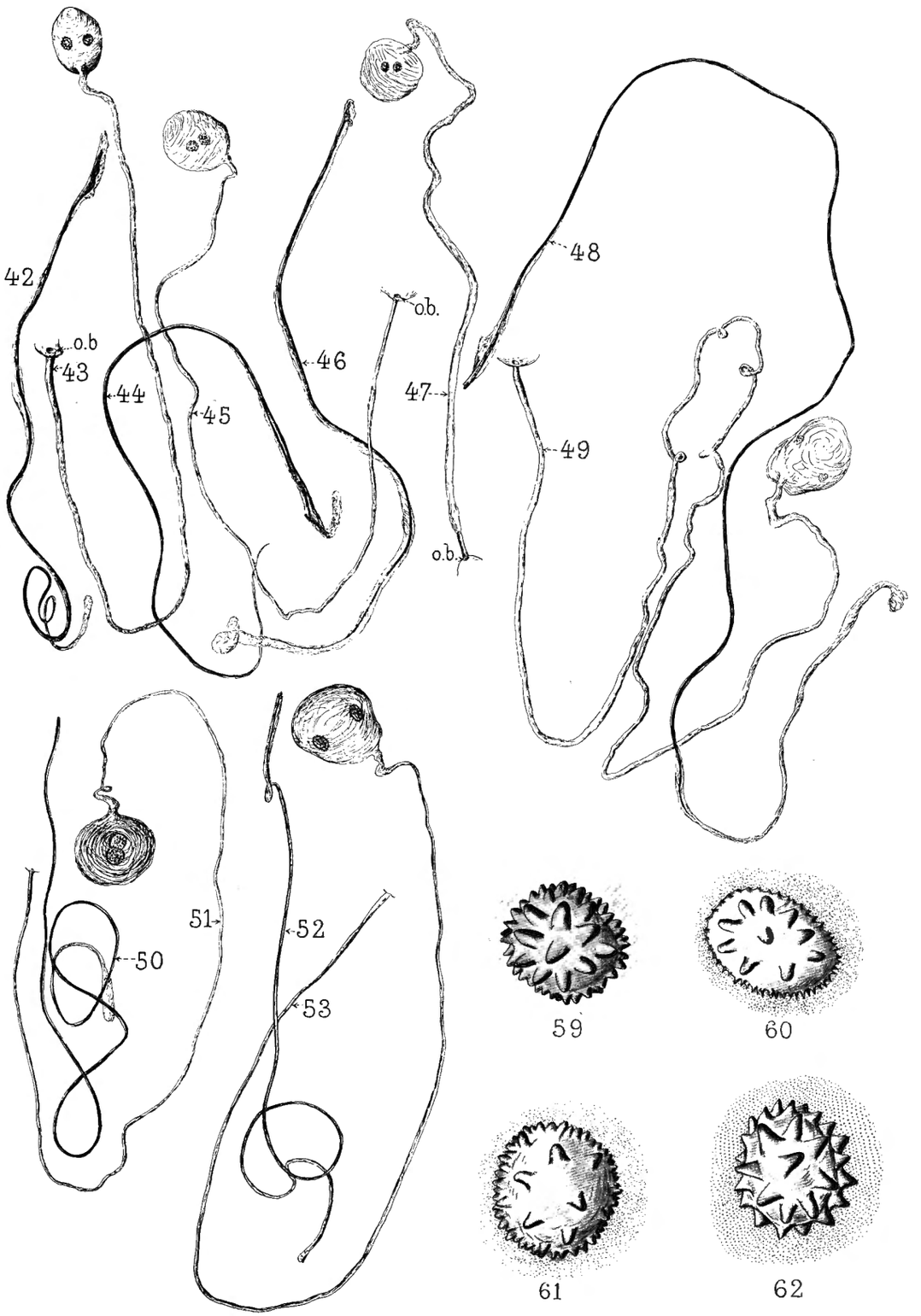
Fig. 53. — Ductus bursae and bursa of *T. exquisitalis* (× 8).

Fig. 59. — Signum of *Talanga sexpunctalis* (× 105).

Fig. 60. — Signum of *T. nympha* (× 105).

Fig. 61. — Signum of *T. tolumnialis* (× 105).

Fig. 62. — Signum of *T. major* (× 105).



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EXPLANATION OF PLATE V.

Fig. 54. — Penis of *T. quadristigmalis* (× 8).

Fig. 55. — Ductus bursae and bursa of *T. quadristigmalis* (× 8).

Fig. 56. — Penis of *Margaronia excelsalis* (× 8).

Fig. 57. — Ductus bursae and bursa of *M. excelsalis* (× 8).

Fig. 58. — Ductus bursae and bursa of *Talanga magnificalis* (× 8).

Fig. 63. — Signum of *T. sabacusalis* (× 105).

Fig. 64. — Signum of *T. exquisitalis* (× 105).

Fig. 65. — Signum of *T. quadristigmalis* (× 105).

Fig. 66. — Signum of *T. magnificalis* (× 105).

Fig. 67. — Signum of *Margaronia excelsalis* (× 105).

Fig. 68. — Tip of penis *Margaronia excelsalis* (× 105).

Fig. 69. — Wing venation of *Coptobasoides léopoldi* (× 3).

Fig. 70. — Head of *C. léopoldi* (× 5).

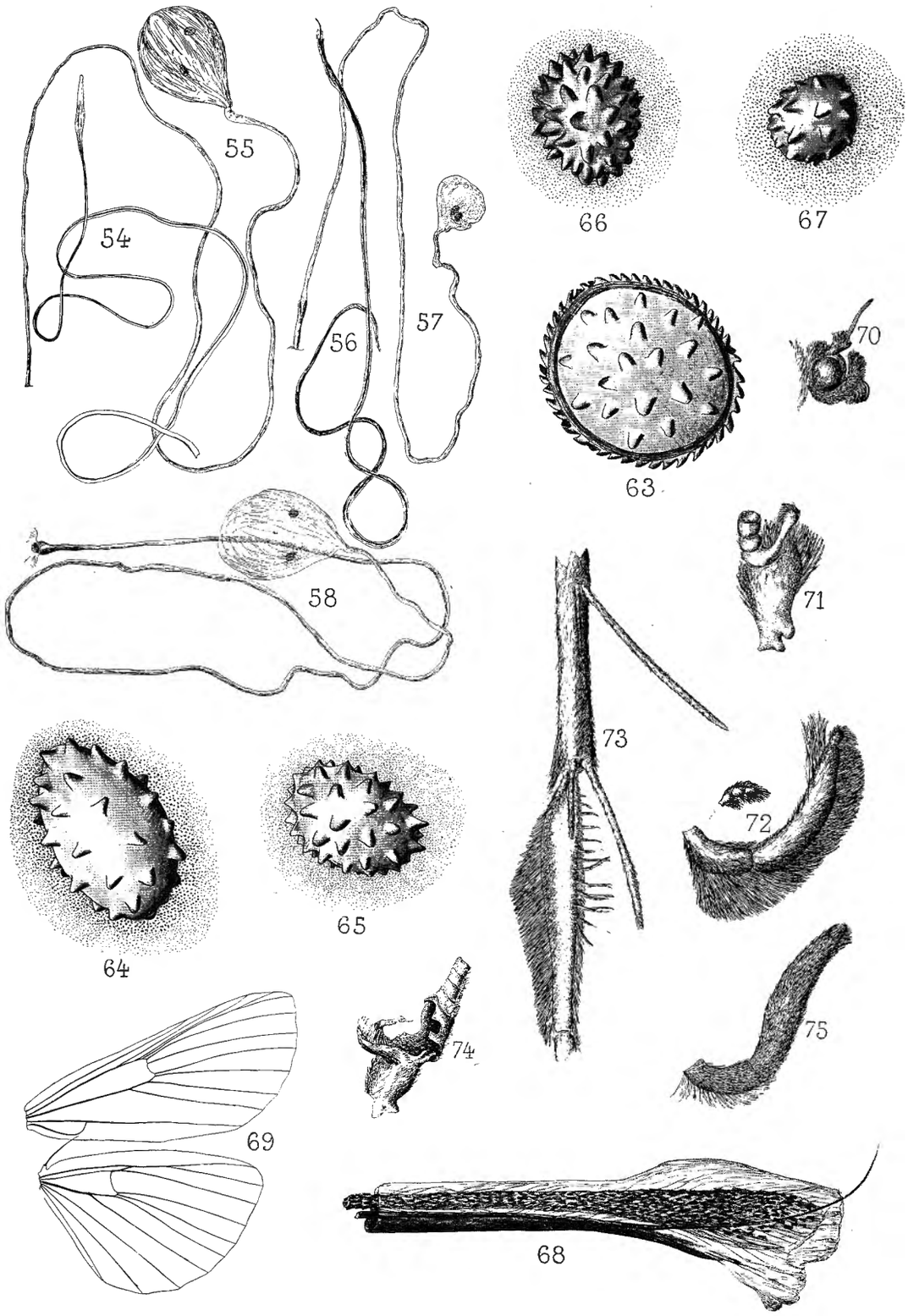
Fig. 71. — Basal joints of ♂ antenna of *C. léopoldi* (× 20).

Fig. 72. — Labial and maxillary palpi of *C. léopoldi* (× 20).

Fig. 73. — Part of ♂ hindtibia and first tarsal joint of *C. léopoldi* (× 13).

Fig. 74. — Basal joints of ♂ antenna of *Coptobasis sulcialis* (× 20).

Fig. 75. — Labial palpus of *C. sulcialis* (× 20).



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EXPLANATION OF PLATE VI.

Fig. 76. — ♂ genitalia of *Coptobasoides léopoldi* (× 20).
(The left valve is not figured and the tergite, sternite and uncus are a little twisted; the coremata are not shown.)

Fig. 77. — Penis of *Coptobasoides léopoldi* (× 20).

Fig. 78. — ♂ genitalia of *Coptobasis sulcialis* (× 20).
(Left valve and right corema only partly shown.)

Fig. 79. — Left corema of ♂ of *Coptobasis sulcialis*, showing its complex sets of hairs (× 20).

Fig. 80. — Penis of *Coptobasis sulcialis* (× 20).

Fig. 81. — ♂ genitalia of *Sylepta vanbraekeli* (× 13).
(Left valve only partly figured and left corema omitted; penis shown separately.)

Fig. 82. — ♂ genitalia of *Sylepta fraterna* (× 13).
(Left valve and corema only partly figured; penis detached.)

Fig. 83. — ♂ genitalia of *Caprinia diaphanalis* (× 20).
(Lateral view, with left valve removed and penis shown in sito.)

Fig. 84. — Right valve from innerside and juxta seen from the ventral side of *Caprinia margaronialis* (× 20).

Fig. 85. — Head of *Pachyzancla auricolor* (× 8).

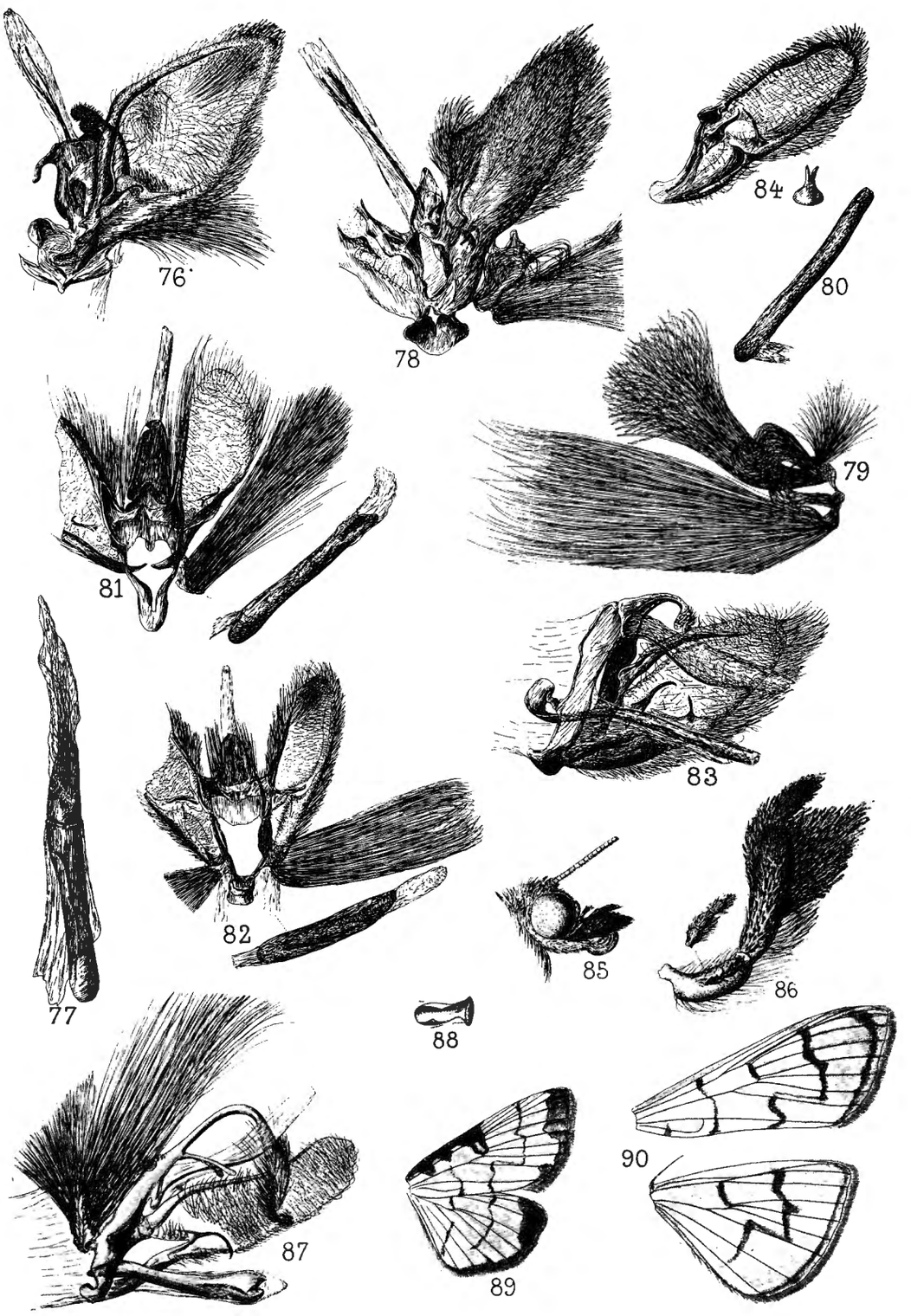
Fig. 86. — Labial and maxillary palpi of *P. auricolor* (× 30).

Fig. 87. — ♂ genitalia of *P. auricolor* (× 20).
(Lateral view, with the left valve removed.)

Fig. 88. — Juxta of *P. auricolor* (dorsal view) (× 20).

Fig. 89. — Wing pattern and venation of *P. auricolor* (× 3).

Fig. 90. — Wing pattern and venation of *Sylepta vanbraekeli* (× 3).



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