

## New *Eupithecia* species from Soviet Central Asia (Lepidoptera, Geometridae)

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A. M. VOJNITS: New *Eupithecia* species from Soviet Central Asia (Lepidoptera, Geometridae). — *Annls hist.-nat. Mus. natn. hung.* 1988 80: 79-90.

**Abstract** — The description of larger series of the new species *Eupithecia subomnigera* sp. n., *E. pamiri* sp. n., *E. mystica* sp. n., *E. hystérica* sp. n. *E. myoma* sp. n., *E. abundeli* sp. n. and *E. hangayorum* sp. n., found in the Central Asian material of the Zoological Institute, Academy of Sciences, Leningrad. *Eupithecia omnigera* VOJNITS, 1982 (= *E. recentissima* VOJNITS, 1982, syn. n.). With 6 photoplates.

Colleagues of the Collection of Lepidoptera and of the Entomological Department, Zoological Institute of the Academy of Sciences, Leningrad, have kindly lent for study a part of the "innotata group" present in their Central Asian material, for which I wish to express my gratitude also in this place.

The extraordinary difficulties inherent in interpreting the external morphological characters of the group were again revealed when I found that a large part of the collection, selected as representing members of the group, could by far not be relegated to the *innotata* assembly, indeed, in more than one case species far removed from that group appeared during dissection.

The segregation of taxa actually belonging to the *innotata* group is rather problematic; the elaboration of also the Central Asian material corroborates the contention that although the genus *Eupithecia* CURTIS (or the tribe *Eupitheciini*) is, largely, of primordial evolvment, a number of its groups are, as also the *innotata* group, in an intense state of speciation.

### *Eupithecia omnigera* VOJNITS

*Eupithecia omnigera* VOJNITS, 1982: *Annls hist.-nat. Mus. natn. hung.* 74: 218, fig. 1.

*Eupithecia recentissima* VOJNITS, 1982, syn. n.: *Annls hist.-nat. Mus. natn. hung.* 74: 219, fig. 2.

**Diagnosis** — Alar expanse of fore wings of both males and females highly varying; that of males between 17.5-26 mm (mean 23 mm), that of females between 20-27 mm (mean 24 mm). Pattern rather marked (except in worn specimens). Old specimens turn yellowish or brownish.

**Genitalia** — ♂: Of the parts not discussed in detail in the original description, as the pulvinulus, ampulla, falces, clavulus, lamellula, scopulina, and vesica, it is mainly the vesica or rather its sclerotized excrescences which display variability. The valval ventrum also varies somewhat, concerning the size of its projection; the eighth sternite may also be narrower or wider (Plate 3: figs 17-19). — ♀: The bursa copulatrix is in the majority of cases sphaerical and only in about one-third of the specimens elongated to a shape as shown in the original [figure (= *E. recentissima* VOJNITS) (Plate 3: fig. 20).

**Biology** — First stages and foodplant unknown. Imago in two broods, in April-June and in July.

**Distribution** — Ranging in Soviet Central Asia.

**Remarks** — The study of a larger series revealed that *Eupithecia omnigera* VOJNITS and *E. recentissima* VOJNITS represent the two sexes of the same species, namely that *E. recentissima*, described on the basis of a single female, is that of *E. omnigera* diagnosed by a single male specimen. The variability of the species is considerable, both as to external morphology and the configuration of the genitalia.

**Examined material:** 25♂♂ and 48♀♀ from the Pamir, Altai and Vantschu regions, preserved in the Zoological Institute, Academy of Sciences, Leningrad, and the Hungarian Natural History Museum, Budapest.

**Silfes:** Nos. 17591, 17592, 17593, 17594, 17595, 17596, 17602, 17603, 17622, 17623, 17625, 17626, 17627, 17628, 17635, 17673, 17698, 17699, 17700, 17701, 17702, 17704, 17707, 17709, 17715, 17718, 17721, 17724, 17726, 17737, 17739, 17742, 17743, 17795, 17796, 17806, 17808, 17809, 17815, 17816, 17817, 17818, 17842, 17863, 17866, 17867, 17941, 17963, 18138, 18139, 18141, 18143, 18159, 18169, 17729, 17732 (♀♀) — 17590, 17597, 17600, 17601, 17606, 17609, 17705, 17708, 17710, 17711, 17717, 17722, 17731, 17736, 17747, 17797, 17798, 17801, 17802, 17820, 17825, 17835, 17851, 17852, 17853, 17868 (♂♂), gen. prep. A. Vojnits.

#### *Eupithecia subomnigera* sp. n.

**Derivation of specific name:** beside or similar to *omnigera*.

**Diagnosis** — Alar expanse of fore wings of the single male specimen 22.5 mm, that of two females 22 and 23 mm. Wings elongated. Costa of fore wing slightly, termen hardly, dorsum not, arcuate. Apex obtuse, tornus rounded. Hind wing rounded. Basic colour of fore wing yellowish white, pattern yellow or pale brownish yellow. Discal spot indiscernible. Hind wing densely striated. Underside of wings quite pale, pattern pale, yellowish or fuscous. Cilia with a sericeous shine, pale fuscous, medium long (Plate 1: figs 1-2).

**Genitalia** — ♂: Basically agreeing with those of *Eupithecia omnigera* VOJNITS (Plate 3: figs 21-23). — ♀: Rather similar to the elongated bursal type of *E. omnigera* VOJNITS (Plate 3: fig. 24).

**Biology** — First stages and foodplant unknown. The known exemplars were collected in June-July.

**Distribution** — Ranging in Soviet Central Asia. Locus typicus: Pamir.

**Specific differences** — The genitalia agree considerably with those of *Eupithecia omnigera* VOJNITS, and differences occur only in certain details. However, the differences in pattern and colour—even with regard to the worn state of the three type-specimens—are so great, and also the shape of the wings of quite another cast, that we are surely dealing with a distinct species.

**Remarks** — The “species pair” *Eupithecia omnigera* — *subomnigera* is another good example of the phenomena not rare and causing considerable identification and systematic problems among the *Eupithecia* species, namely that the genitalia of species standing far from each other as to external morphology may be closely similar and, vice versa, the genitalia of species not even belonging in the same type may agree with each other in external characteristics.

**Holotype** ♂: “Pamir merid occid. Mts. Schugnanensis cl sept. fl. Akmamed dara, 3500 m. 12.7.957 A. Bundel” “Holotype” *Eupithecia subomnigera* sp. n. gen. prep. No. 17731♂ det. A. Vojnits. Paratypes 2♀♀, from the same area. Holotype deposited in the Zoological Institute, Academy of Sciences, Leningrad, paratypes in the same Institute and in the Hungarian Natural History Museum, Budapest.

**Slides:** Nos. 17731 (♂); 17729, 17732 (♀♀), gen. prep. A. Vojnits.



*Eupithecia pamiri* sp. n.

**Diagnosis** — Average alar expanse of fore wings of 40 male specimens 21 mm, extreme values 17 and 24 mm; that of 50 females 21.5 mm, extreme values 18.5 and 24.5 mm. Wings elongated. Costa and termen of fore wing arcuate, dorsum straight. Apex obtuse, termen obtusely angulate. Hind wing obtusely angulate. Fore wing light grey. Transverse stripes sharp, blackish near costa. Part of venation, especially in median field, also covered with black. Submarginal stripe white, contiguous, not disintegrated. Hind wing pale, transverse lines grey or black. Discal spot of fore wing velvety black, sharply defined, elongated or round, on hind wing indistinct. Underside of wings nearly white, pattern grey. Cilia long, striated greyish white and grey, very light on hind wing (Plate 1: figs 4-5). Some specimens darker, some others again a part of pattern not or hardly discernible (Plate 1: fig. 5).

**Genitalia** — ♂: Entire genitalia rather small, stout, short. Uncus thick, robust, bifid, but second apex very short. Valva short, evenly attenuating from base to obtuse apex. Pulvinulus a wide field. Ampulla elongated, terminally clavate, with its 50-60 short bristles. Falces projecting beyond uncus. Clavulus long, slender, scopulina short. Lamellula comparatively narrow. Aedoeagus short, thick. Vesica with a twisted, a dentiform and a very long, lamelliform sclerotized excrescence. Base of sternite VIII very wide, rapidly attenuating, arms narrow (Plate 4: figs 25-27). — ♀: Bursa copulatrix elongated. Bursa evenly padded with minute spines; from antrum a twisted tube extending into bursa, almost to its middle. Both anterior and posterior apophyses relatively short and medium long. Papillae anales almost quadratic. Shape of bursa and size of spinose field considerably varying (Plate 4: fig. 28).

**Biology** — First stages and foodplant unknown. The known imagos were collected in July-September.

**Distribution** — Ranging in Soviet Central Asia, found in the Pamir and Altai areas. Locus typicus: Pamir merid., occid., Mts. Schachdarensis.

**Specific differences** — The new species resembles *Eupithecia costisignata* DIETZE, but it is slightly larger, the grey shows no brownish or yellowish tint, and the transverse stripes are conspicuously defined. Also the male and female genitalia are similar to those of *costisignata*, the differences appearing only in details.

**Holotype** ♂: "Pamir. merid. occid. Mts Schachdarensis cliv. sepir, Fl. Seiojdara, 3250 m. 27.7.957 A. Bundel" "gen. prep. No. 17686 ♂ det. A. Vojnits". — **Paratypes**: 39 ♂♂ and 50 ♀♀ from the Pamir area, from Juli-September. Holotype deposited in the Zoological Institute, Academy of Sciences, Leningrad, and in the Hungarian Natural History Museum, Budapest.

**Slides**: Nos. 17614, 17615, 17632, 17877, 17680, 18686, 17687, 17706, 17712, 17714, 17719, 17728, 17738, 17794, 17804, 17807, 17822, 17823, 17826, 17827, 17828, 17830, 17833, 17843, 17846, 17847, 17856, 17658, 17859, 17860, 17865, 17869, 17919, 17929, 17936, 17954, 17960, 17962, (♂♂) — 14955, 17601, 17604, 17610, 17612, 17613, 17616, 17617, 17618, 17619, 17631, 17633, 17634, 17675, 17676, 17678, 17679, 17681, 17682, 17683, 17685, 17688, 17690, 17692, 17693, 17694, 17695, 17696, 17697, 17713, 17734, 17744, 17790, 17792, 17803, 17831, 17832, 17834, 17838, 17841, 17844, 17845, 17848, 17849, 17850, 17854, 17855, 17857, 17862, 17864 (♀♀), gen. prep. A. Vojnits.

*Eupithecia mystica* sp. n.

Derivation of specific name: mysticus = mysterious.

**Diagnosis** — Generally of an innotatoid type, both as to wing shape and pattern, but highly varying. Alar expanse of fore wings of male 18-25 mm, mean value 21 mm (based on 48 specimens), that of females 19-23 mm, mean value 21 mm (based on 34 specimens). Wing shape of two main types: a more elongated one, with costa of fore wing longer than dorsum, and a wider one, of an isosceles triangle. Costa and termen of fore wing slightly arcuate, dorsum straight, hind wing rounded, but in some specimens more elongated than in the others. Basic colour and pattern largely innotatoid, but eventually brownish, or yellowish, or grey, with transverse stripes obsolete or conspicuously defined, black discal spot either robust and elongated or small and rotund. Underside of wings accordingly with an obsolete or well defined pattern. Cilia medium long, striated fuscous and greyish yellow (Plate 1: figs 6-7).

**Genitalia** — ♂: Also male genitalia unusually varying. Uncus elongated, bifid. Valva generally auriculate, dorsum then nearly straight, ventrum evenly arcuate, apex rounded; in a number of specimens different, with ventrum broken, apex elongated, or even ascendent; thus valva narrower or wider. Pulvinulus an isolateral triangle. Ampulla thick, long and covered with densely arranged short and robust spines from its middle. Falces projecting beyond uncus, largely as in *Eupithecia innotata* HUFN. Aedoeagus short, thick, cylindrical, vesica with a smaller and larger spiniform cornutus as well as a terminally multiply twisted lamella, and a part of vesical wall covered by minute spines, echinaceous. Sternite VIII basally wide and incised, narrow to wide and also terminally varying (Plate 4: figs 29–31). — ♀: Largely innotatoid, bursa copulatrix smaller or larger, sphaerical or elongated (Plate 4: fig. 32).

**Biology** — First stages and foodplant unknown. Imagos captured in two broods: April–June and August–September.

**Distribution** — Ranging in Soviet Central Asia. Locus typicus: Badakhshan: Horog 2300 m.

**Specific differences** — The new species stands near *E. innotata* HUFN. and *E. mitigata* DIETZE: it differs from the latter principally by its external characteristics and the configuration of the aedoeagus, while in *innotata* the vesica is different.

**Holotype** ♂: "Tadžikištan 1978 L Badakhshan, Horog 2300 m, 30. V.–4. VI. Metsaviir, Raitviir et Viidalepp leg." "Holotype *Eupithecia mystica* gen. prep. No. 14952 ♂ det. A. Vojnits". — **Paratypes**: 47♂♂ and 34♀♀ from Soviet Central Asia. — Holotype deposited in the Zoological Institute, Academy of Sciences, Leningrad, paratypes in the same Institute and in the Hungarian Natural History Museum, Budapest.

**Slides**: Nos. 14922, 14926, 14930, 14931, 14932, 14940, 14943, 14948, 14949, 14956, 14959, 14965, 14973, 17735, 18142, 18144, 18145, 18146, 18147, 18148, 18149, 18151, 18152, 18155, 18157, 18158, 18160, 18161, 18162, 18163, 18164, 18165, 18166, 18170, 18171, 18172, 18173, 18174, 18176, 18177, 18179, 18180, 18181, 18184, 18185 (♂♂) — 14915, 14916, 14917, 14918, 14920, 14923, 14924, 14925, 14933, 14937, 14938, 14950, 14953, 14958, 14961, 14974, 17583, 17608, 17611, 17620, 17621, 17624, 17703, 17727, 17793, 17799, 17821, 17824, 17836, 17837, 17840, (♀♀), gen. prep. A. Vojnits.

#### *Eupithecia hysterica* sp. n.

Derivation of specific name: *hystericus* = hysterical.

**Diagnosis** — Alar expanse of fore wings of 3 male specimens 21, 22 and 23 mm, mean of females 25 mm, extreme values 24 and 26 mm (based on 7 specimens). Wings elongated. Costa of fore wing considerably, termen slightly, dorsum hardly, arcuate, apex pointed, termen widely rounded. Hind wing elongated. Basic colour fuscous, in not a pattern marked. Underside of wing grey, transverse stripes well discernible, discal spot black. Cilia comparatively short, striated fuscous and yellowish white (Plate 1: fig. 8; Plate 2: fig. 9).

**Genitalia** — ♂: Largely innotatoid in type (Plate 5: figs 33–35). ♀: Also innotatoid, of a characteristically small and elongated bursa (Plate 5: fig. 36).

**Biology** — First stages and foodplant unknown. Imagos were collected in May–June.

**Distribution** — Ranging in Soviet Central Asia. Locus typicus: Tadzhikistan, Vantsh, Gutshevast.

**Specific differences** — The new species belongs unequivocally in the *innotata*-group. Besides its external morphological features (large size, sharply defined pattern) it is characterized by the hardly developed pulvinulus, and the comparatively soft-walled, elongated and relatively less densely spinose bursa copulatrix.

**Holotype** ♂: "Tadzhikistan 1978 L Vantsh Gutshevast Metsaviir, Raitviir, Viidalepp lg. 2200 m, 7–10. VI" "Holotype *Eupithecia mystica* gen. prep. 14976 ♂ det. A. Vojnits". — **Paratypes**: 2♂♂ and 7♀♀ from Soviet Central Asia. — Holotype deposited in the Zoological Institute, Academy of Sciences, Leningrad, paratypes in the Institute and in the Hungarian Natural History Museum, Budapest.

**Slides**: Nos. 14947, 14975, 14976 (♂♂) — 14934, 14946, 14951, 14964, 17716, 17740, 17741 (♀♀), gen. prep. A. Vojnits.



*Eupithecia myoma* sp. n.

Derivation of specific name: NL myoma.

**Diagnosis** — Alar expanse of fore wings of 2 male specimens 18 and 18.5 mm, mean of females 18.5 mm, extreme values 17 and 21 mm. A small-sized species with elongated and pointed wings. Fore wing an isosceles triangle, costa arcuate especially at apex, termen evenly but slightly arched, dorsum straight. Apex pointed and elongated, termen obtusely angulate. Basic colour dark fuscous. Pattern innotatoid, and with dark, shady stripes backing the transverse stripes, causing a peculiarly zonate pattern. Discal spot black. Hind wing dark, transverse stripes situated densely, and a dark stripe decurrent as a continuation of postmedian stripe of fore wing. Underside of wings pale or medium grey, pattern elements grey. Cilia short, grey (Plate 2: figs 10–12).

**Genitalia** — ♂: Largely innotatoid, but uncus shorter and thicker, valva relatively smaller, ampulla shorter, sternite VIII narrower and basally angulately incised (Plate 5: figs 37–39). — ♀: Also innotatoid, but bursa copulatrix longer, spinose field more restricted, area free of spines heavily sclerotized, posterior apophyses very short and papillae anales flattened (Plate 5: fig. 40).

**Biology** — First stages and foodplant unknown. All collected imagoes flew in May.

**Distribution** — Ranging in Soviet Kirghizia. Locus typicus: Tshatkal.

**Specific differences** — The innotatoid species is extraordinarily well characterizable—besides the differences mentioned in the diagnosis of the genitalia—by the small, dark, zonate wings.

**Holotype** ♂: "Kirgiz SSR 1986 Tshatkal mts. SE sl. Arkit 22.–26. V. H. Remm leg." "Holotype *Eupithecia myoma* sp. n. gen. prep. No. 14944 ♂ det. A. Vojnits". — Holotype deposited in the Zoological Institute, Academy of Sciences, Leningrad, paratypes in the same Institute and in the Hungarian Natural History Museum, Budapest.

**Slides**: Nos. 14944, 14945 (♂♂) — 14913, 14914, 14927, 14928, 14935, 14942 (♀♀), gen. prep. A. Vojnits.

*Eupithecia abundeli* sp. n.

**Diagnosis** — Alar expanse of fore wings of 4 male specimens 21 and 22 mm, that of 8 females 20–22 mm, mean 21 mm. A moderately broad-winged species. Costa and termen of fore wing arcuate, dorsum straight. Apex pointed, tornus angulate. Hind wing rounded. Fore wing grey, and principally in median field rufous or brownish. Transverse stripes dark grey to black. Discal spot marked, elongate, black. Hind wing yellowish grey, transverse stripes grey: at inner margin black, discal spot small, rounded. Underside of fore wing grey, that of hind wing pale grey, pattern elements dark grey. Cilia striated greyish yellow and grey (Plate 2: figs 13–14).

**Genitalia** — ♂: Of medium size. Uncus short, thick, stout. Valva evenly wide from base to its middle, subsequently finely attenuating. Dorsum hardly convex, ventrum obtusely angulate. Apex obtuse. Pulvinulus a wide, obtuse-angled triangle. Ampulla long and thick, terminally clavate with densely arranged short and robust bristles. Falces not reaching apex of uncus. Clavulus short, wide, scopulina sparse, robust. Lamellula wide and heavily sclerotized, especially basally. Aedoeagus cylindrical, slightly bent. Vesica with a somewhat arcuate bacilliform and a multiply twisted lamelliform excrescence. Base of sternite VIII very wide, then attenuating, terminally widely excised, its arms narrow and long (Plate 6: figs 41–43). ♀: Bursa copulatrix small, sphaerical, soft-walled, with an irregularly shaped small field of spines. Antrum very wide. Both anterior and posterior apophyses — as compared to bursa — long and robust. Papillae anales large, wide (Plate 6: fig. 44).

**Biology** — First stages and foodplant unknown. Imagoes from July–August.

**Distribution** — Ranging in Soviet Central Asia. Locus typicus: Pamir.

**Specific differences** — The new species shows a certain relationship with partly the *phoeniceata* partly the *sinuosaria* species-groups, but differs from all of their species.

I dedicate the new species to A. BUNDEL, collector of the extensive and valuable Pamir material.

**Holotype**: ♀: "Pamir mts. Schach-Darensis, cliv. sept., fl. Badjond–Dara; 3500 m 31/VII/1961, Bundel" "Holotype *Eupithecia bundeli* sp. n., gen. prep. No. 17689 ♀ det. A. Vojnits". — **Paratypes**: 2♂♂ and 5♀♀ specimens from the Pamir area." Holotype deposited in the

Zoological Institute, Academy of Sciences, Leningrad, paratypes in the same Institut and in the Hungarian Natural History Museum, Budapest.

**Slides:** Nos. 18140, 18153, 18178, 18183 (♂♂) — 17639, 17689, 17745, 17746, 17800, 17819, 18150, 18154, (♀♀), gen. prep. A. Vojnits.

*Eupithecia hangayorum* sp. n.

**Diagnosis** — Alar expanse of fore wings of male 22–24.5 mm, mean value 22.5 mm (based on 6 specimens), that of females 22–27 mm, mean value 25.5 mm (based on 5 specimens). Wings moderately elongated. Fore wing an isosceles triangle. Costa and termen of fore wing hardly arcuate, dorsum straight. Apex pointed, tornus rounded. Hind wing short, obtusely angulate. Fore wing fuscous. Transverse stripes densely arranged, yellowish. Dark brown spots present along costa, and dark brown scales covering also a part of venation. Discal spot minute, brown, oval. Hind wing lighter, but transverse stripes darker, fuscous. Discal spot more marked. Underside of wings yellowish white, pattern well defined, fuscous. Cilia long, a sericeous and pale fuscous (Plate 2: figs 15–16).

**Genitalia** — ♂: Rather large. Uncus elongated, bifid. Valva of evenly width from base to middle, subsequently attenuating. Ventrum slightly arcuate, dorsum obtusely angulate. Apex elongated. Pulvinulus triangular. Ampulla elongated, with few bristles only terminally. Falces not extending beyond uncus. Clavulus comparatively short, triangular, scopulina short and robust. Aedoeagus thick. Vesica with sclerotized excrescences: a large claviform one, two others resembling a backbone, a short and arcuate lamella and a smaller grain. Sternite VIII large, base wide then moderately attenuating, basally less but terminally more deeply incised (Plate 6: figs 45–47). — ♀: Bursa copulatrix large, sacculiform, padded to about its two-thirds by medium long and densely arranged spines, at antrum with a small field of minute, wide spinelets. Both anterior and posterior apophyses medium long and thick. Papillae anales medium large, elongated (Plate 6: fig. 48).

**Biology** — First stages and foodplant unknown. Imagos captured in July–August.

**Distribution** — Ranging in Soviet Central Asia. Locus typicus: Darvash, Dushkan.

**Specific differences** — Resembling partly *Eupithecia euphrasiata* H-SCH., partly *E. pimpinellata* HBN., but well distinguishable from both by the external morphological characters and the configuration of the genitalia.

I dedicate the new species to MR. and MRS. GEORGE HANGAY, of the Australian Museum, Sydney, true friends and companions on several collecting trips and expeditions.

**Holotype** ♂: "Darwaz occid. Mts. Chazret-scho. fl. Don Duschlan; VII. 1959. 2200 m. A. Bundel." "Holotype *Eupithecia hangayorum* sp. n. gen. prep. No 17748 ♂ det. A. Vojnits". — **Paratypes**: 5♂♂ and 5♀♀ from the same area. — Holotype deposited in the Zoological Institute, Academy of Sciences, Leningrad, and in the Hungarian Natural History Museum, Budapest.

**Slides**: Nos. 17637, 17638, 17671, 17720, 17748, 17805 (♂♂) — 17629, 17640, 17672, 17674, 17691 (♀♀), gen. prep. A. Vojnits.

References

- VOJNITS, A. M. (1982): A revision of the "*Eupithecia innotata* group", I. (Lepidoptera, Geometridae) — *Annls hist.-nat. Mus. natn. hung.* 74: 217–239.  
VOJNITS, A. M. (1984): A revision of the "*Eupithecia innotata* group", II. (Lepidoptera, Geometridae) — *Boll. Mus. Reg. Sci. Nat. Torino* 2 (1): 199–220.

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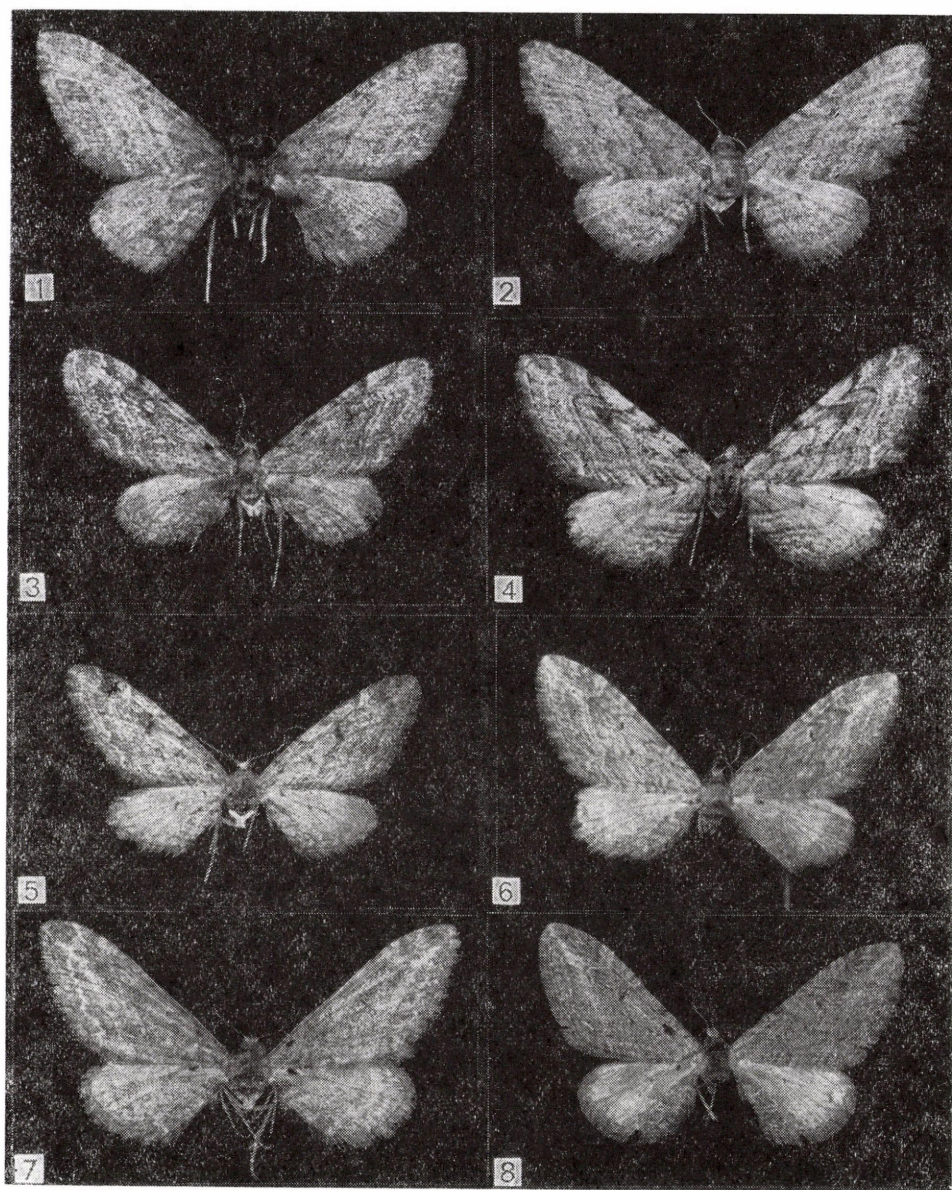


Plate 1: figs 1-8. 1 = Holotype ♂ and 2 = Paratype ♀ of *Eupithecia subomnigera* sp. n.; 3 = Holotype ♀, 4 = Paratype ♂ and 5 = Paratype ♀ of *E. pamiri* sp. n.; 6 = Holotype ♂ and 7 = Paratype ♀ of *E. mystica* sp. n.; 8 = Holotype ♂ of *E. hysterica* sp. n.



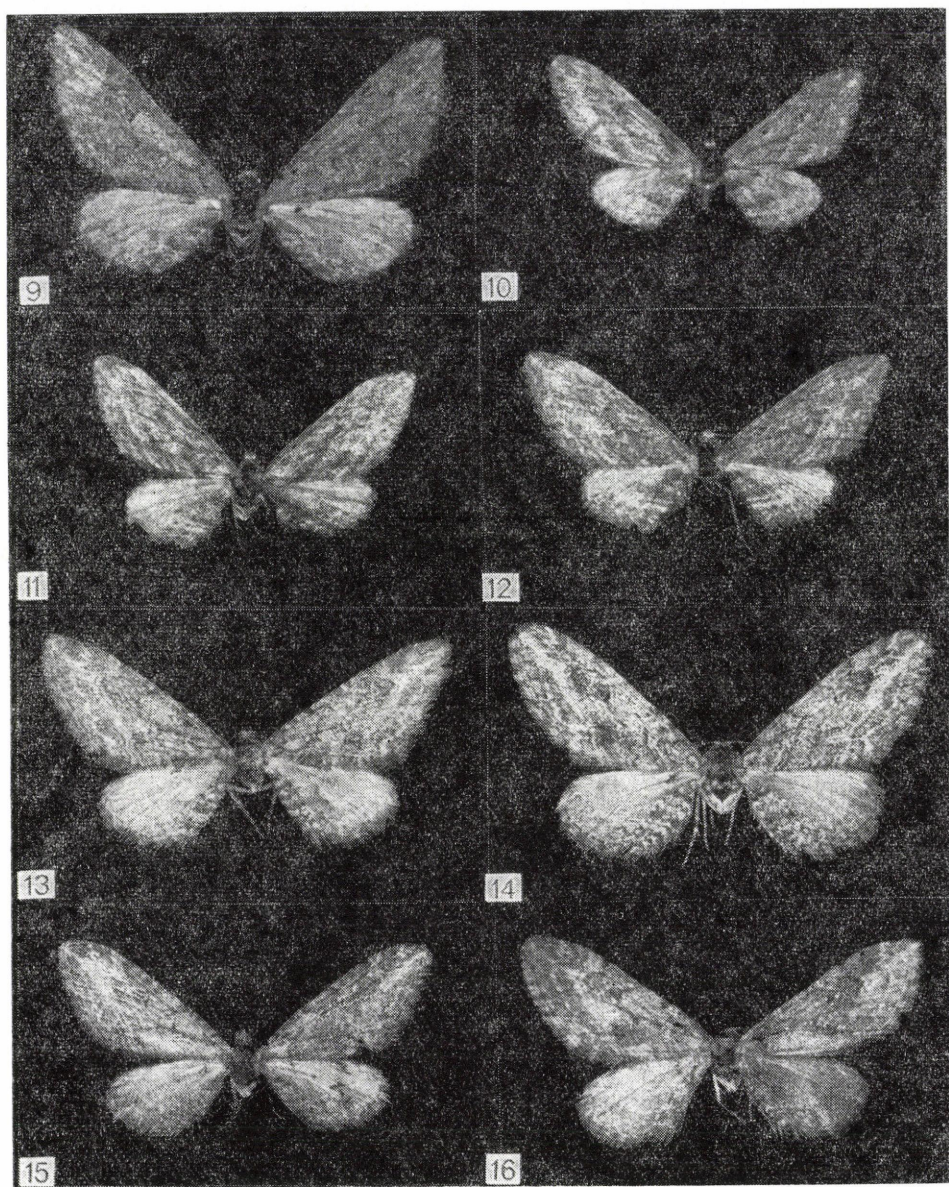


Plate 2: figs 9–16. 9 = Paratype ♀ of *Eupithecia hysterica* sp. n.; 10 = Holotype ♂ 11 = Paratype ♂ and 12 = Paratype ♀ of *E. myoma* sp. n.; 13 = Paratype ♂ and 14 = Paratype, of *E. abundeli* sp. n.; 15 = Paratype ♂ and 16 = Paratype ♀ of *E. hangayorum* sp. n.



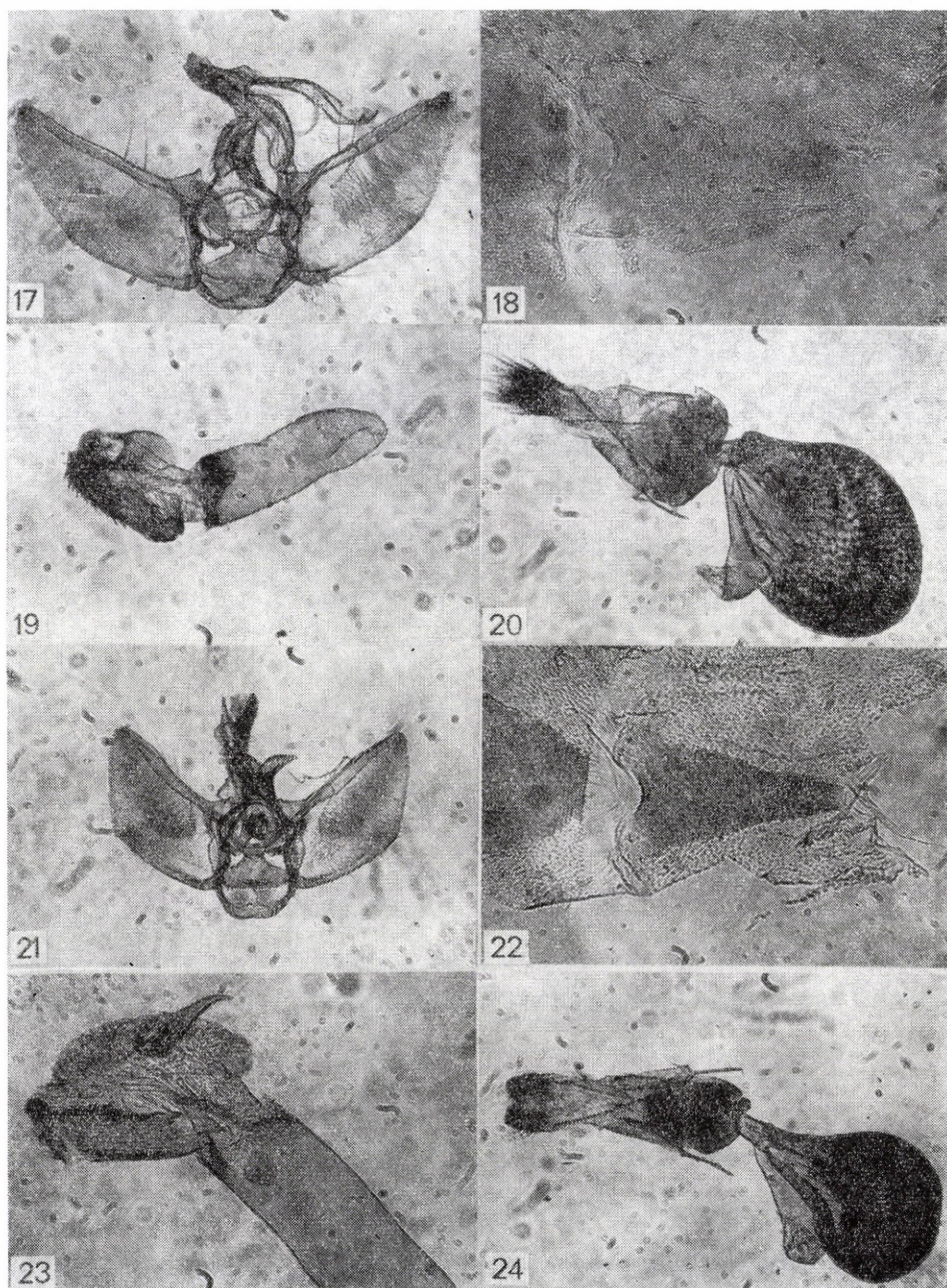


Plate 3: figs 17-24. 17 = Male genitalia, 18 = sternite VIII, 19 = aedeagus and 20 = female genitalia of *Eupithecia omnigera* VOJNITS; 21 = Male genitalia, 22 = sternite VIII, 23 = aedeagus and 24 = female genitalia of *E. subomnigera* sp. n.



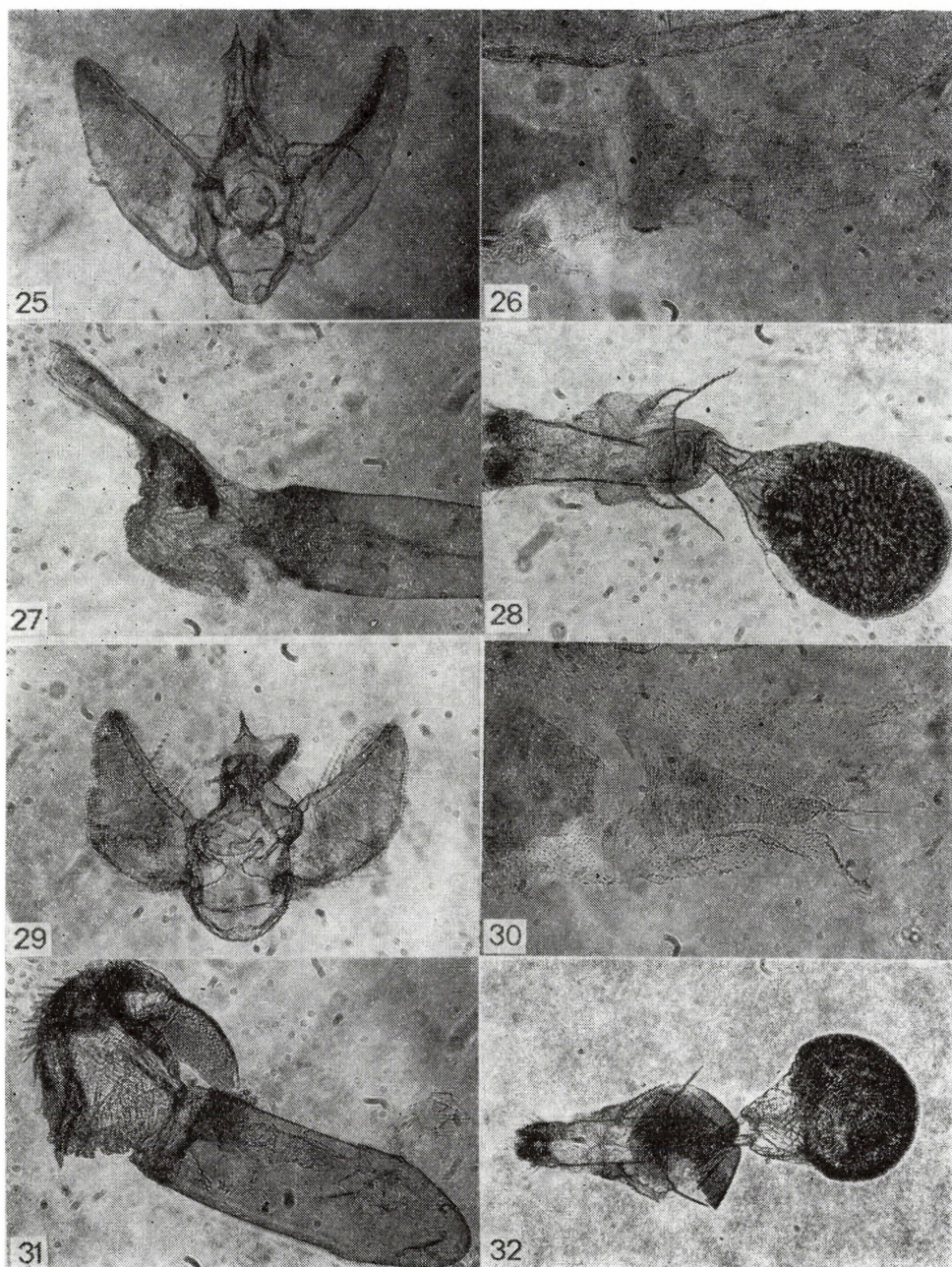


Plate 4: figs 25-32. 25 = Male genitalia, 26 = sternite VIII, 27 = aedeagus and 28 = female genitalia of *Eupithecia pamiri* sp. n.; 29 = Male genitalia, 30 = sternite VIII, 31 = aedeagus and 32 = female genitalia of *E. mystica* sp. n.



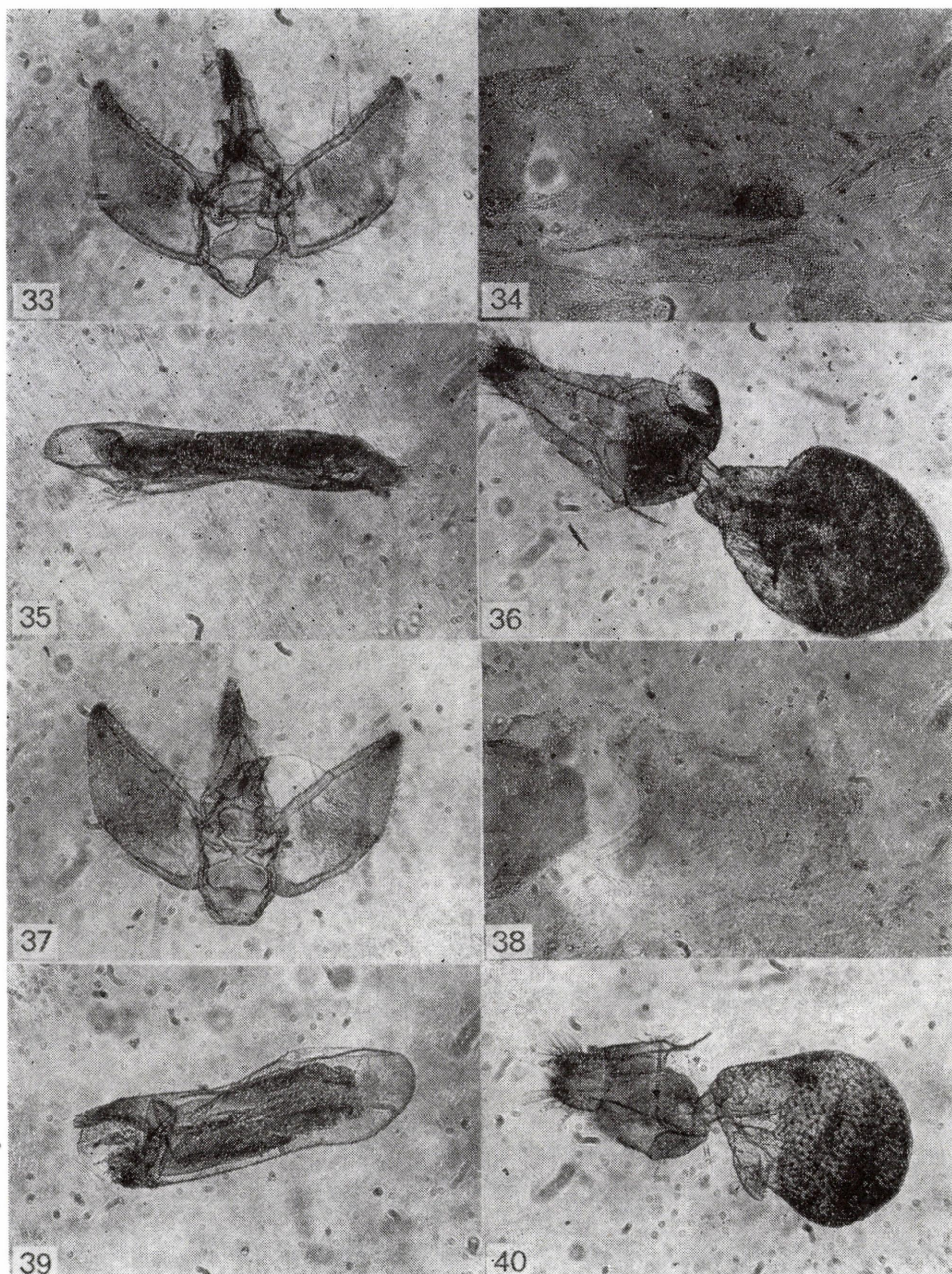


Plate 5: figs 33-40. 33 = Male genitalia, 34 = sternite VIII, 35 = aedeagus and 36 = female genitalia of *Eupithecia hystérica* sp. n.; 37 = Male genitalia, 38 = sternite VIII, 39 = aedeagus and 40 = female genitalia of *E. myoma* sp. n.



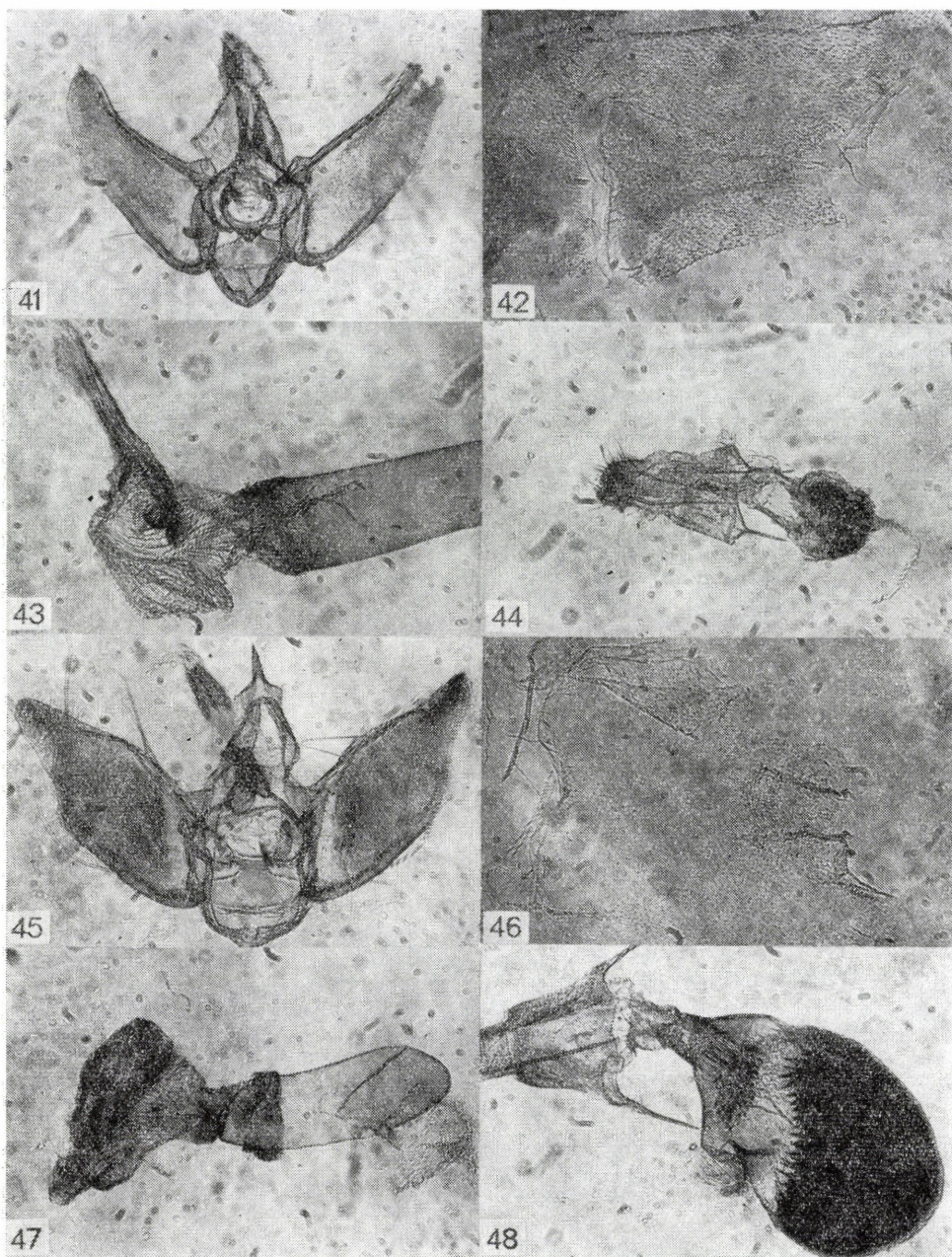


Plate 6: figs 41-48. 41 = Male genitalia, 42 = sternite VIII, 43 = aedoeagus and 44 = female genitalia of *Eupithecia abundeli* sp. n.; 45 = Male genitalia, 46 = sternite VIII, 47 = aedoeagus and 48 = female genitalia of *E. hangayorum* sp. n.