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**Entomology**

# New and interesting moth flies (Diptera, Psychodidae) from protected and underestimated natural areas of the Czech Republic

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**Abstract. Two new species of psychodine moth flies are presented: *Peripsychoda zbytka* sp. n. and *Krivosheinoscopus bartai* sp. n. (Czechia). *Lepiseodina rothschildi* EATON, 1912 is new to the fauna of the Czech Republic and *Szaboiella hibernica* (TONNOIR, 1940) new to Abkhazia. The species mentioned above are described or redescribed, all important diagnostic characters are figured and some comments on the distribution and generic classification are given. New synonymy *Szaboiella hibernica* (TONNOIR, 1940) = *Pericoma* (*Leptopericoma*) *thessalica* KREK, 1991 syn. n. is proposed and new localities of this species are added from the protected and underestimated natural areas of Czechia.**

■ **Taxonomy, faunistics, Psychodinae, *Peripsychoda, Krivosheinoscopus, Lepiseodina, Szaboiella,* new species and synonymy, redescription, Czechia, Abkhazia, the Netherlands**

## INTRODUCTION

Among the collected flies from the protected wildlife localities of the Czech Republic I found two new species of moth flies from the genera *Peripsychoda* ENDERLEIN, 1935 and *Krivosheinoscopus* JEŽEK, 2001. *Peripsychoda zbytka* sp. n. gives piquancy to the protected locality Zbytka (between Pohoří and České Meziříčí) and *Krivosheinoscopus bartai* sp. n. was collected in the Železné hory Mts Protected Landscape Area (both Eastern Bohemia). Moreover, there are some discrepances between Vaillant's (1972, Plate 6, Figs 5, 6) and Jung's (1956, Plate 28, Fig. 196) illustrations of the aedeagal complex of *Telmatoscopus rothschildi* EATON, 1912, transferred in the genus *Lepiseodina* ENDERLEIN, 1936 by Ježek (1990). The latter species from the Trčkov National Nature Reserve (Orlické hory Mts PLA), new to the fauna of the Czech Republic, is redescribed below and the type material examined (The Natural History Museum, London). This paper elevates the total sum of species of moth flies in the Czech Republic (see Ježek 2003) from 131 to 134 (three spp. from Bohemia). During my expeditional activities to Caucasus (Abkhazia, 1985) I collected males of pericomine moth flies with three retinaculi on both surstyli. These specimens and additional material of *Szaboiella hibernica* (TONNOIR, 1940) from PLA of the Czech Republic, underestimated localities of the Sokolov area (Western Bohemia) and the type material (BMNH) show a large variability in the shape of aedeagal complex. New synonymy is proposed on the basis of Figs of Krek's paper (1991): *Szaboiella hibernica* (TONNOIR, 1940) = *Pericoma* (*Leptopericoma*) *thessalica* KREK, 1991 syn. n. *S. hibernica* is new to Abkhazia and the name *thessalica* must be substituted in lists of moth flies of Greece by *hibernica*.

Explanatory notes: MT – Malaise trap; MBT – Manitoba trap; M – male; F – fe-

male; J – Ježek leg.; C – Chvojka leg.; C + M – Chvojka + Macek leg.; G – Grim leg.; H – Hájek (Josef) leg.; PLA – Protected Landscape Area; NNR – National Nature Reserve; BMNH – Natural History Museum, London; NMPC – National Museum (Natural History Museum), Praha; CGM – code of grid mapping according to Zelený (1972); Cat. No. – evidence number of slide for the type material and historical specimens; INS – inventory number of slide.

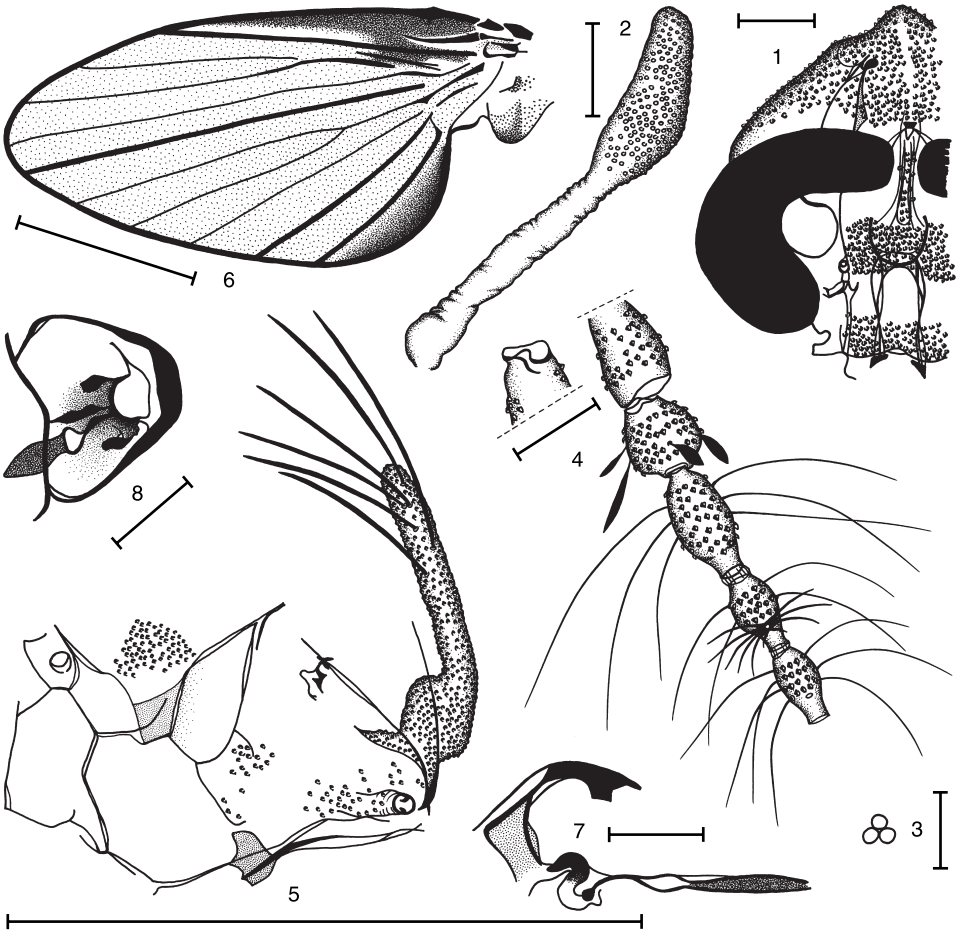
## TAXONOMY AND FAUNISTICS

***Peripsychoda zbytka*** sp. n.
(Figs 1–16)

Type material: Holotype, male: Bohemia or., wildlife reserve Zbytka between Pohoří and České Meziříčí (CGM 5762), a large complex of floodplains and fen meadows in the meander of Zlatý potok brook, approximately 260 m a. s. l., July 15, 2002, Ježek leg., Cat. No. 34242, INS 12317, collected by sweeping on the vegetation of rain left pools in the forest drive with *Quercus, Fraxinus, Populus, Alnus* and *Cornus* around, undergrowth with *Rubus, Iris, Stachys, Leonurus, Lappa,* Daucaceae and Poaceae.

Differential diagnosis: Wing with $R_{2+3}$ straight, gonocoxites grown together, aedeagal complex inside with a broad funnel, external parts of aedeagus reduced, gonoporus large. Similar to *Peripsychoda auriculata* (Curtis, 1839) which has $R_{2+3}$ bent, gonocoxites separated from each other, aedeagal complex fully developed, rounded, gonoporus very small.

Description: Male. Eyes separated, frons with a row of irregularly arranged hairs (Fig. 1). The minimum distance between eyes corresponds hardly to two diameters of facets (Fig. 3), however, closely below the frontal suture it is equivalent to the double. Index of distance of apices of eyes to minimum width of frons 6.6, to facet diameter 11.5. Antennae 16-segmented (Figs 4, 9). Scape almost cylindrical, a little widened distad, short. Pedicel pitcher-shaped, short, conspicuously widened distad, symmetrical. Flagellar segments bottle-shaped, symmetrical, postpedicel larger. Apical antennal segment with a long pestle-shaped protuberance, haired. Sensory filaments (ascoids) fan-shaped (Fig. 4). Ratios of lengths of segments of maxillary palps 1 : 1.6 : 1.3 : 1.6, last palpomere annulate (Fig. 11). Terminal lobes of labium – Fig. 10. Ratio of maximum length of cibarium to length of epipharynx 1.3 : 1. Patagium as in Fig. 2. Mesothoracal allurement organs (Fig. 5) very long, cylindrical, strengthened basally. Wings (Fig. 6) widely lancet-shaped, 3 mm long, cubital area conspicuously developed. Wings slightly clouded, conspicuously darkened between C, Sc, basis of $R_1$ and $R_{2+3}$, as well as between Cu and hind basal wing margin, in contrast to clear stripe between C and end of $R_1$, also along Sc. Strengthened veins or their parts: Sc, $R_1$, $R_{2+3}$, $R_4$ basally, $R_5$, $M_{1+2}$ basally, $R_4$ and Cu. $R_{2+3}$ straight. Basal costal nodes well visible, Sc uninterrupted. Medial fork basally of radial one, which is slightly incomplete. Cu conspicuously curved basally and connected with the start of $M_4$ in contrast to free $M_3$. $R_5$ extends behind the apex of the wing. Medial wing angle 136° (BCD). Indices of wing AB : AC : AD = 4 : 4.3 : 4; BC : CD : BD = 1 : 1.8 : 2.7 (A = end of $R_5$, B = radial fork, C = medial fork, D = end of Cu). Index of maximum length (measured from the line connecting basis of basal costal node and neala) to maximum width of wing 2.1. Ratio of maximum length of halteres to their maximum width 2.3 : 1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1$ = 2.2 : 2.2 : 1; $P_2$ = 2.4 : 3 : 1.2; $P_3$ = 2.4 : 3.3 : 1.2. Paired tarsal claws of $P_1$ as in Fig. 12. Basal apodeme of male genitalia (Figs 7, 8, 16) oblong, somewhat widened in the middle, rounded proximally. Aedeagal complex inside with a broad funnel, external parts re-

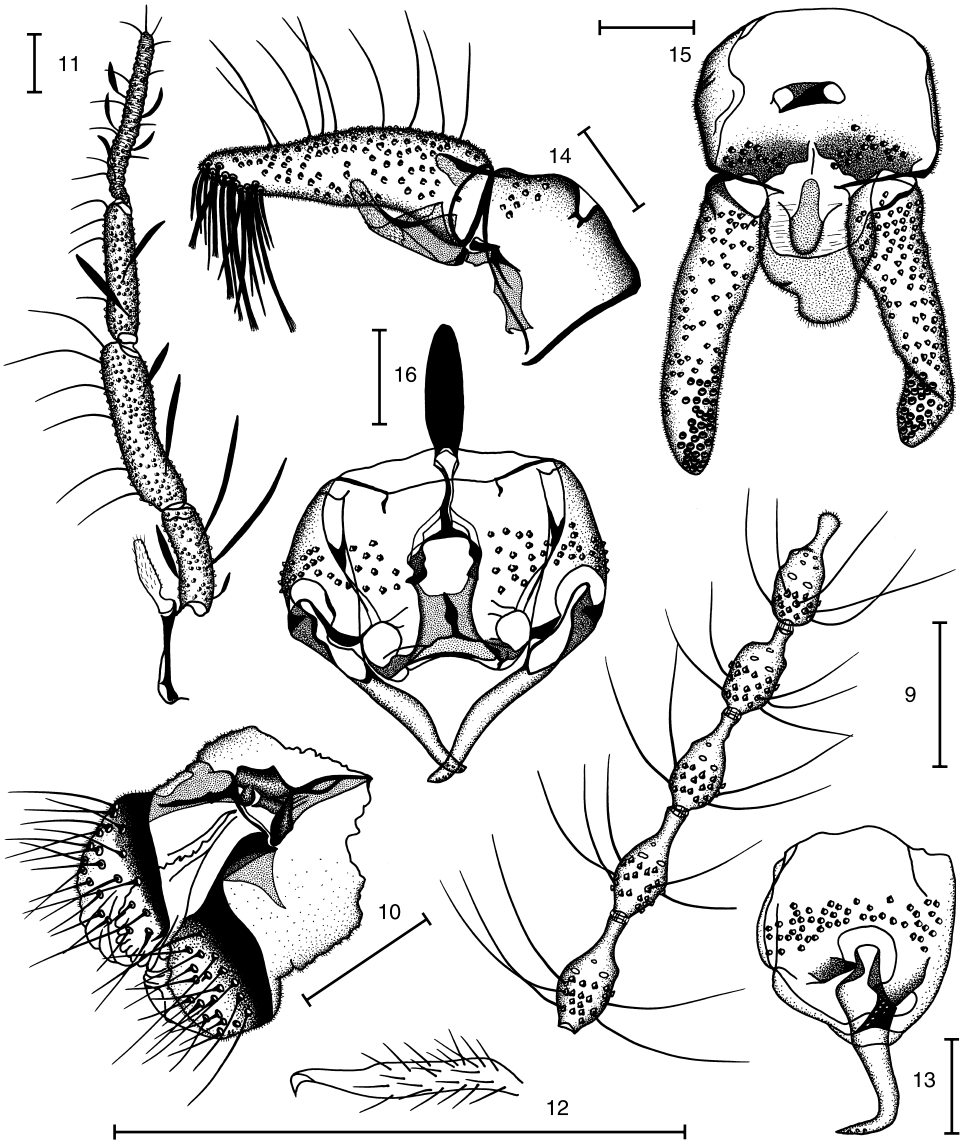



**Figs 1–8.** ***Peripsychoda zbytka*** **sp. n., male: (1) head; (2) patagium; (3) facets; (4) basal antennal segments; (5) lateral view of thoracic sclerites; (6) wing; (7) lateral view of aedeagal complex; (8) caudal view of gonoporus area. Scales 0.1 mm, in Figs 5 and 6 1 mm.**

duced, gonoporus large. Gonocoxites (Figs 13, 16) grown together, gonostyli long, thin, pointed and bent. Epandrium (Figs 14, 15) almost bare, haired posteriorly, with a large notch caudally. Two apertures almost circular, connected by sclerotized rim. Remainders of 10th tergite and sternite inside of epandrium reduced to two patches in caudal area. Hypandrium not visible. Epiproct small, tongue-shaped. Hypoproct broad basally, with a narrow posterior part, rounded. Both epiproct and hypoproct haired. Surstyli almost straight, 1.7 times as long as epandrium, inconspicuously C-shaped (Figs 14, 15), with 36–42 frayed-like retinaculi subapically. Female unknown.

Derivatio nominis: The new species name (noun in apposition) is based on Zbytka, protected locality in the Czech Republic.

Comments on the generic classification: The taxonomical position of the paramormiine genus *Peripsychoda* ENDERLEIN, 1935 (type species *Psychoda fusca* MACQUART, 1826: 167 – by orig. des.) was accounted, discussed and intergeneric relationships




**Figs 9–16.** ***Peripsychoda zbytka*** **sp. n., male: (9) apical antennal segments; (10) terminal lobes of labium; (11) maxilla and palpus maxillaris; (12) claw of $P_1$; (13) lateral view of gonocoxite and gonostyle; (14) lateral view of epandrium and surstylus; (15) dorsal view of epandrium and surstyli (retinaculi omitted); (16) dorsal view of aedeagal complex and gonopods. Scales 0.1 mm.**

were given by Ježek (1983, 1987 and 1990). The genus is restricted only to the Palaearctic region. List of species: *Peripsychoda auriculata* (Curtis, 1839) – Europe, West Caucasus (Abkhazia); *P. fusca* (Macquart, 1826) – Europe; *P. iranica* Ježek, 1987 – North Iran; *P. zbytka* sp. n. – Czech Republic; *P. aurasica* (Vaillant, 1958) was described on the basis of larva from North Africa.

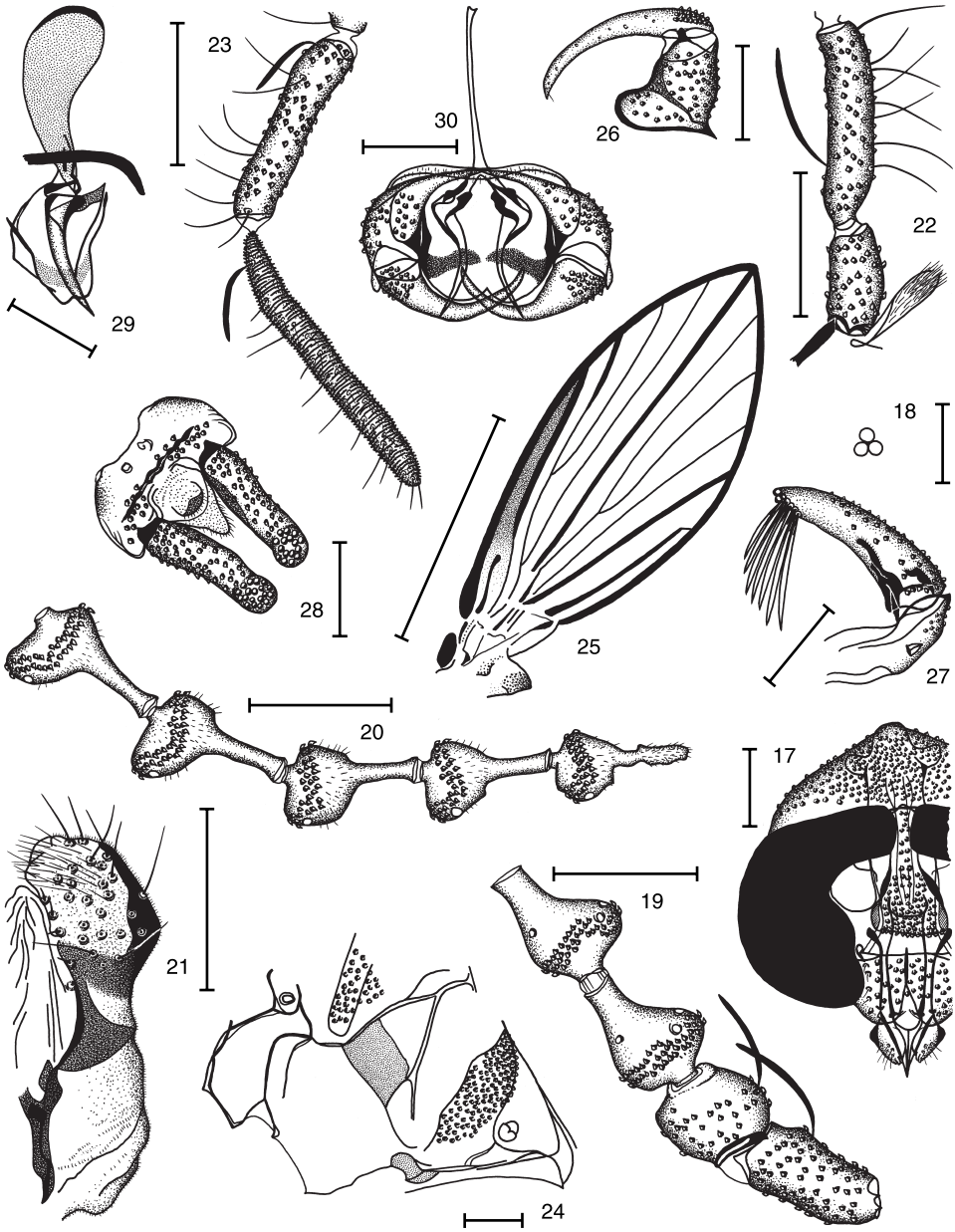
***Krivosheinoscopus bartai*** sp. n.
(Figs 17–30)

Type material: Holotype, male,: Bohemia or., Železné hory Mts Protected landscape area, Lichnice – Kaňkovy hory Mts NNR (CGM 6159), May 22, 2000, MT, Bárta leg., Cat. No. 34243, INS 12318. The Malaise trap was situated in spring area with clear fissure waters (western slopes of Kaňkovy hory Mts, 385 m a. s. l., acid beechwood, sometimes with an admixture of *Picea, Fraxinus, Alnus, Quercus, Robinia* and *Larix*).

Differential diagnosis: This species (male) has wings (Fig. 25) clouded between C, $R_1$ and Sc, hypandrium (Fig. 30) haired, aedeagal complex (Figs 29, 30) with only one pair of dagger-shaped protuberances, distal extremites reduced to two sclerotized transverse patches. Remainders of 10th tergite and sternite reduced to transverse rib (Fig. 28). Probably closely related *Krivosheinoscopus ussuricus* Ježek, 2001 (male) has wings quite clear, hypandrium bare, aedeagal complex furnished by two couples of traversed dagger-shaped protuberances (distal extremites developed), epandrium without remnants of 10th tergite and sternite inside.

Description: Male. Eyes separated dorsally by distance of one facet diameter, closely below frontal suture a little more. Frons haired. Eye bridge composed from four rows of facets. Index of distance of upper apices of eyes to minimum width of frons as well as to facet diameter 11.3 (Figs 17, 18). Antennae 16-segmented (Figs 19, 20). Scape almost cylindrical, inconspicuously widened distad, short. Pedicel ball-shaped. Flagellar segments pitcher-shaped, basal bulbose part of flagellomeres asymmetrical, distal segments with rather long necks. Apical antennal segment with a very long finger-like protuberance (Fig. 20). The shape of paired sensory filaments unknown. Ratios of lengths of segments of maxillary palps (Figs 22, 23) 1 : 1.8 : 1.7 : 2.6, last palpomere annulate. Terminal lobe of labium as in Fig. 21. Ratio of maximum length of cibarium to length of epipharynx 1.9 : 1. Thoracic sclerites – Fig. 24. Wings (Fig. 25) narrow, 2.1 mm long, almost clear, clouded only between C, $R_1$ and Sc. Strengthened veins or their parts: Sc, $R_1$ distad, distal part of $R_2$, $R_5$, basal part of $M_{1+2}$, $M_4$ and Cu. Basal costal nodes distinct, Sc inconspicuously S-shaped, $M_3$ and Cu without a connection to $M_4$. Radial and medial forks in the same distance to the wing basis, both basally of the end of Cu. $R_5$ extends in apex of wing. Medial wing angle 150° (BCD). Indices of wing AB : AC : AD = 4.8 : 4.8 : 4.4; BC : CD : BD = 1 : 1.6 : 2.4 (A = end of $R_5$, B = radial fork, C = medial fork, D = end of Cu). Index of maximum length (measured from the line connecting basis of basal costal node and neala) to maximum width of wing 2.7. Basal apodeme of male genitalia (Figs 29, 30) straight and very narrow from dorsal aspect, apparently spatulate from lateral view, bent. Distal part of basal apodeme forked in two caudal arms; the lamellae of aedeagal complex (with doubled basal sclerites) first diverging, then converging, however, with long pointed tips conspicuously bent outward and penetrating genital sack (with caudal cleft in the middle axis) on both sides. Distal extremites reduced only to sclerotized transverse patches. Gonocoxites (Figs 26, 30) conspicuously shorter than aedeagal complex, gonostyli with long thin pointed tips, bent backwards. Epandrium (Figs 22, 28) haired, with a large notch caudally. Basal paired apertures small. Sclerotized remainders of $10^{th}$ tergite and sternite inside of epandrium reduced to transverse rib. Hypandrium narrow (Fig. 30), haired. Epiproct small, semicircular. Hypoproct large, tongue-shaped, triangular, rounded caudally. Both parts (Figs 27, 28) haired. Surstyli almost straight from dorsal view, inconspicuously C-shaped from lateral aspect, twice as long as epandrium, with 24 retinaculi subapically. Cluster of insertions of retinaculi short. Female unknown.

Derivatio nominis: Named after the author's friend, the collector of the holotype,




**Figs 17–30.** ***Krivosheinoscopus bartai*** **sp. n., male: (17) head; (18) facets; (19) basal antennal segments; (20) apical antennal segments; (21) terminal lobe of labium; (22) maxilla and two first palpomeres; (23) apical two palpomeres; (24) lateral view of thoracic sclerites; (25) wing; (26) lateral view of gonocoxite and gonostyle; (27) lateral view of epandrium and surstylus; (28) dorsal view of epandrium and surstyli (retinaculi omitted); (29) lateral view of aedeagal complex; (30) dorsal view of aedeagal complex and gonopods. Scales 0.1 mm, in Fig 25 1 mm.**

Dr. František Bárta (Management of the Protected landscape area Železné hory Mts, Nasavrky).

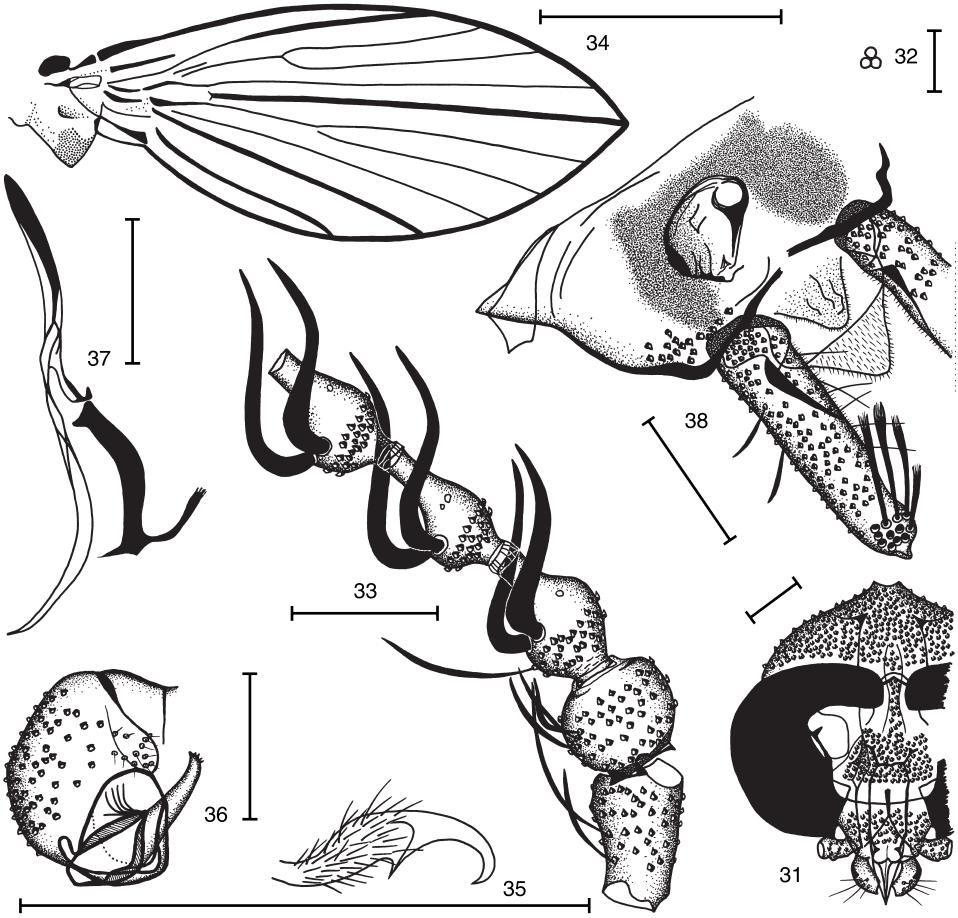
Comments on the generic classification: The very intricated taxonomical situation in the genus *Telmatoscopus* auct., s. lat. (nec EATON, 1904) has been more complicated by the description of the genus *Krivosheinoscopus* JEŽEK, 2001 (type species *K. ussuricus* JEŽEK, 2001: 57 – by orig. des.). Ježek (2001) discussed in details position of this taxon in the light of intergeneric relationships of selected telmatoscopoid genera of the tribe Paramormiini. The monotypy of the mentioned genus from Russia (Far East, Ussuri Nat. Res.) is repealed now by the description of the second species: *Krivosheinoscopus bartai* sp. n. (single male) – Czech Republic.

***Lepiseodina rothschildi*** (EATON, 1912)
(Figs 31–44)

*Telmatoscopus rothschildii* [original spelling] EATON, 1912: 9; Withers et O' Connor 1992: 75; Withers 2004: 39.
*Telmatoscopus rothschildi* [incorrect subsequent spelling in prevailing usage is deemed to be a correct original spelling and maintained – ICZN 33.3.1]; Barendrecht 1934: 80; Freeman 1950: 98; Kröber 1956: 142; Kidd et Brindle 1959: 33; Giljarov 1964: 652; Tanasijchuk 1969: 128; Szabó 1972–1973: 167; Caspers et Wagner 1980: 78; Rozkošný 1980: 268; Szabó 1983: 33; Withers 1989: 34; Wagner 1992: 177; 1997: 209.
*Telmatoscopus* (*Telmatoscopus*) *rothschildi*; Tonnoir 1940: 63; Kloet et Hincks 1945: 333; Jung 1956: 172; Vaillant 1956–1957: 105.
*Clogmia rotschildi* (lapsus calami); Salamanna et Raggio 1984: 9; Papp 2001: 36.
*Clogmia rothschildi*; Vaillant 1982 a: 298; b: 206; Wagner 1990: 60.
*Lepiseodina rothschildi*; Ježek 1990: 146.

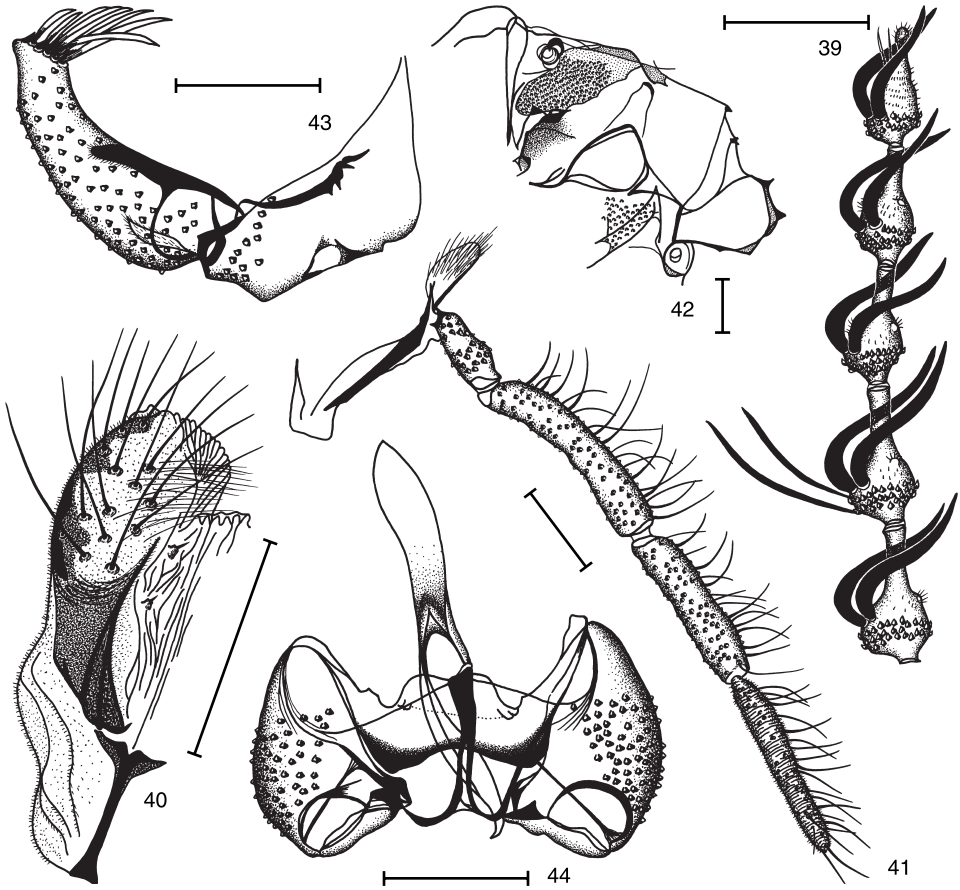
Material examined: 2 males. Czech Republic, Bohemia or., Orlické hory Mts Protected landscape area, Trčkov NNR, October 12, 1999, MT, Jos. Hájek leg., Cat. No. 34244, INS 12319. The Netherlands, De Kaaistoep Nature Reserve env. Tilburg, UTM FT 398124, September 5–12, 1998, MT, J. W. van Zuiljen leg., Cat. No. 34245, INS 12320 (used for Figs 35, 41 and 43).
Comparative material: Holotype, BMNH (E) 23541: Hyde Park, London (Honble N. C. Rothschild), 15.vi. and vii.1910, *Telmatoscopus rothschildi* EATON, male, Pres. By Rev. A. E. Eaton, 1912.153; paratypes (two slides), ditto, 235463, Eaton No. 95a, Eaton Bequest, B.M.1929–590, 15.vii.1910, *T. rothschildii*; ditto, 235464, No. 95b.

Differential diagnosis: This redescribed species (male) has $R_5$ in apex of wing (Fig. 34). Gonostyli short and almost straight (Fig. 36). Basal apodeme with two arms: one is jointed with disunited sclerotized rib, at first parallel, then diverging and embracing male genitalia (Figs 37, 44) on both sides and one arm is prolonged to a narrow hook-shaped protuberance. Retinaculi are frayed-like (Fig. 38). Similar *Lepiseodina tristis* (MEIGEN, 1830) has $R_5$ ending a little beyond wing apex. Gonostyli long and conspicuously curved. Distal part of basal apodeme with three arms: two sclerotized protuberances are connected in closed hooked mesh and one protuberance is prolonged to a long needle-shaped protuberance. Retinaculi are haired apically.
Description: Male. Eyes separated, frons with irregularly arranged dorsoventral stripe of hairs. The minimum distance between upper apices of eyes corresponds to two diameter of facets (Figs 31, 32). Index of distance of both apices (upper and down) to minimum width of frons 5.7, to facet diameter 11.3. Antennae 16-segmented. Scape short, almost cylindrical (Fig. 33), a little widened distad. Pedicel globular. Flagellomeres pitcher-shaped, asymmetrical, terminal flagellar segments with longer necks in contrast to basal ones. Apical antennal segment conical (Fig. 39), with a long finger-like protuberance, haired, subapically with two long bristles. Sensory filaments conspicuous (Figs 33, 39), thick, simple, as a structural unit, pointed, paired. Ratios of lengths of segments of maxillary palps (Fig. 41) 1 : 2.3 : 1.8 : 2.1. Last palpomere annulate. Terminal lobe of labium as in Fig. 40. Ratio of maximum length of cibarium to length of epipharynx 1.6 : 1. Thoracic sclerites – Fig. 42. Wings (Fig. 34) narrowly lancet-shaped, 2.5 mm long, clear.




**Figs 31–38.** ***Lepiseodina rothschildi*** **(EATON, 1912), male: (31) head; (32) facets; (33) basal antennal segments; (34) wing; (35) claw of $P_1$; (36) lateral view of gonocoxite and gonostyle; (37) lateral view of aedeagal complex; (38) dorsal view of epandrium and surstyli. Scales 0.1 mm, in Fig. 34 1 mm.**

Strengthened veins or their parts: Sc, end of $R_1$, start of basal cell, $R_5$, $M_4$ and Cu. Basal costal nodes well visible, Sc uninterrupted. Medial fork slightly incomplete. Radial fork basally of medial one, which is oriented before ending of Cu. $M_3$ and Cu originate out of $M_4$. $R_5$ extends distally to reach wing margin in apex of wing. Medial wing angle 196° (BCD). Indices of wing AB : AC : AD = 4.5 : 4 : 4; BC : CD : BD = 1 : 1.5 : 2.4 (A = end of $R_5$, B = radial fork, C = medial fork, D = end of Cu). Index of maximum length (measured from the line connecting basis of basal costal node and neala) to maximum width of wing 2.5. Ratio of maximum length of halteres to their maximum width 3.2 : 1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1$ = 1.7 : 1.9 : 1; $P_2$ = 1.9 : 2.6 : 1.2; $P_3$ = 1.9 : 2.9 : 1.2. Paired tarsal claws (Fig. 35) of $P_1$ pointed and bent distad, with conspicuous spine ventrad, turned backward. Basal apodeme of male genitalia (Figs 37, 44) scalpel-shaped, compressed dorsally, narrow in lateral view. Distal part of basal apodeme forked in two caudal arms: one is jointed with disunited sclerotized rib, at first parallel, then diverging and embracing male genitalia on both sides and one is prolonged




**Figs 39–44.** ***Lepiseodina rothschildi*** **(EATON, 1912), male: (39) apical antennal segments; (40) terminal lobe of labium; (41) maxilla and palpus maxillaris; (42) lateral view of thoracic sclerites; (43) lateral view of epandrium and surstylus; (44) dorsal view of aedeagal complex and gonopods. Scales 0.1 mm.**

to a narrow hook-shaped protuberance. Gonocoxites (Figs 36, 44) very short and thick, gonostyli pressed and hardly visible from dorsal view, however, conspicuous, pointed and bent apically from lateral aspect. Epandrium almost bare as in Figs 38, 43. Only central aperture developed, deformed. Sclerotized remainders of 10th tergite and sternite inside of epandrium reduced to two basally connected inconspicuous dark patches. Surstyli almost 1.5 times as long as epandrium. Hypandrium broad, with two conspicuous tubercles on both sides and hardly any oblong part proximally, sometimes quite separated. Epiproct small, triangular, with rounded top. Hypoproct tongue-shaped, larger, with broad basis. Both parts haired, hairs of epiproct are narrowly spaced and minute. Surstyli almost straight from dorsal aspect (Fig. 38), C-shaped from lateral view (Fig. 43), apex with small tubercle and 12 frayed-like retinaculi subapically. Female. Genital chamber and subgenital plate were illustrated by Jung (1956, p. 243, Fig. 199).

B i o n o m y : The mature larva and pupa were described by Jung (1956). Habitats: mountain slope spring areas (*Fagus, Abies,* Pteropsida) as well as small lowland rivers (*Alnus, Quercus, Betula, Prunus, Polytrichum, Calluna, Senecio, Luzula and Urtica*).

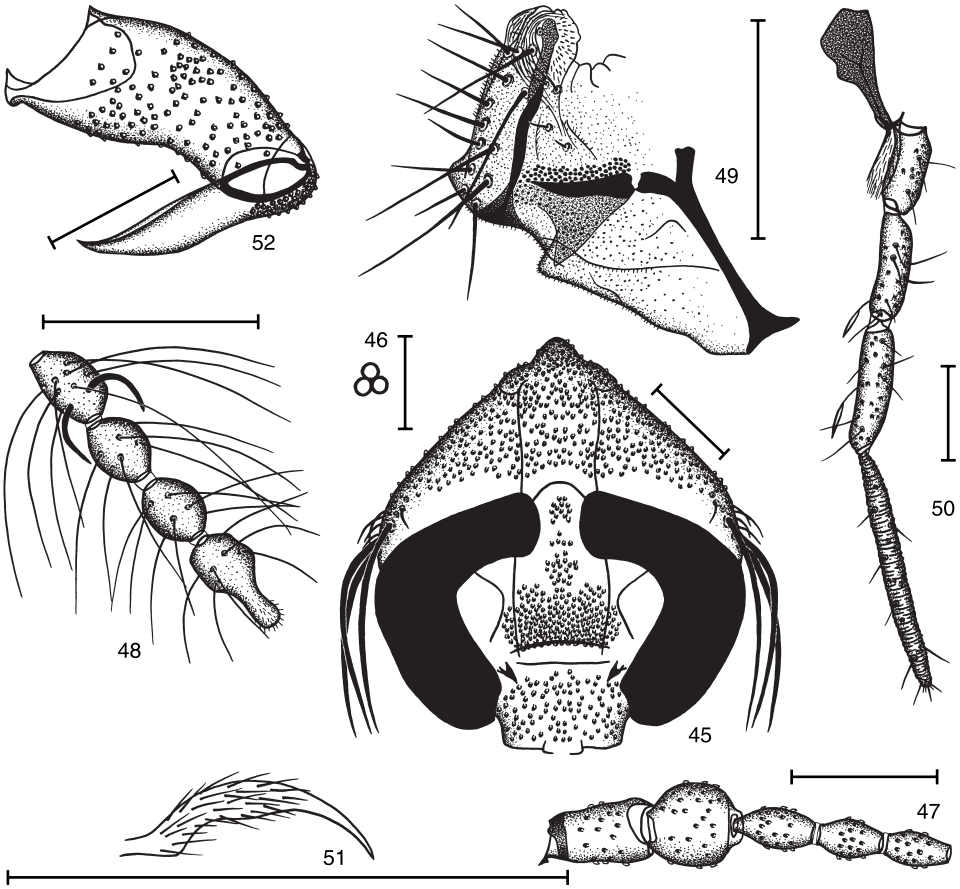
Distribution: Belgium, France, Germany, Great Britain, Ireland, Italy, the Netherlands. New to the fauna of the Czech Republic.

Comments on the generic classification: The systematic position of the genus *Lepiseodina* ENDERLEIN, 1936 (type species *Psychoda tristis* MEIGEN, 1830: 272 – by orig. des.) was demonstrated in the cladogram of plesiomorphic and apomorphic characters of closely related genera of Paramormiine moth flies and discussed by Ježek (1990). Extent of the genus – Palaearctic region, 3 species: *L. latipennis* (SARÀ, 1953) – Europe; *L. rothschildi* (EATON, 1912) – Europe; *L. tristis* (MEIGEN, 1830) – Europe, Africa sept.

***Szaboiella hibernica*** (TONNOIR, 1940)
(Figs 45–58)

*Pericoma hibernica* TONNOIR, 1940: 41; Freeman 1950: 84; Jung 1956: 194; Szabó 1960: 210; Krek 1967: 256.
*Pericoma* (*Pericoma*) *hibernica*; Kloet et Hincks 1945: 332.
*Szaboiella hibernica*; Withers 1989: 25; Wagner 1990: 33; Withers et O'Connor 1992: 68; Ježek 1996: 118; 1997: 32; Wagner 1997: 220; Ježek 1999: 56; 2003: 132**.**
*Szaboiella hibernica* (EATON, 1893) [incorrect name of the author and year]; Vaillant 1979: 245; Salamanna et Raggio 1984: 20; Krek 1985: 166; Raggio et Salamanna 1985: 611; Salamanna et Castellano 1989: 213; Papp 2001: 40.
*Pericoma hibernica* EATON, 1893 [incorrect name of the author and year]; Szabó 1983: 66.
*Pericoma bezzii* SARÀ, 1956: 1; 1958 a: 7; b: 10; Vaillant 1964: 72; Krek 1967: 256; Sarà et Salamanna 1967: 68; 1968: 151; Sarà 1969: 315.
*Pericoma* (*Leptopericoma*) *thessalica* KREK, 1991: 137. Syn. n.

Material examined: References – Ježek (1996, 1999, 2002): Czech Republic : Orlické hory Mts PLA, Mnichová – Mýto and Jeseníky Mts PLA, Rejvíz – Bleskovec, Stará Ves – Růžový potok brook; Sokolovsko, Háje nr. Březová. Slovenia: Julijske Alpe Mts, Triglav National Park. New material: CZ, Bohemia occ.: Boučí, 586.5 m a. s. l., CGM 5741, M, May 29, 1997, J, INS 6772; Dolní Nivy (5741), M, May 29, 1997, J, INS 6711; Habartov-Kluč (5841), M, July 10, 2002, C, INS 12140; between Kacéřov and Hluboká (5841), M, June 1, 1998, J, INS 8756; Kolová env. Kynšperk nad Ohří (5841), M, June 5, 2000, J, INS 9594; Mezihorská nr. Jindřichovice (5741), M, May 28, 1998, J, INS 7711; Milíkov – U těšovské hájenky (Slavkovský les PLA, 5941), 658 m a. s. l., M, May 27, 1998, J, INS 10620; Skalka nr. Hazlov (5839), M, May 17, 1999, J, INS 8757; Staré Sedlo (5842), Ohře river, M, June 2, 1998, J, INS 7723; Vackovec env. Milhostov (5840), res. Bublák and Plesná brook, M, May 16, 1999, J, INS 8755; Výhledy nr. Hazlov (5839), M, May 17, 1999, J, INS 8758. Bohemia bor., Jizerské hory Mts PLA: Český Šumburk env. Tanvald (5258), Jírův kopec hill 745.7 m a. s. l., M, June 17, 2002, J, INS 11553; Horní Maxov (5257), res. Malá Strana (upper part), M, May 23, 2002, J, INS 11453; Pustiny env. Desná v Jizerských horách (5257), 614.6 m a. s. l., M, May 23, 2000, J, INS 9876. Bohemia or.: Železné hory Mts PLA: Mezisvětí env. Nasavrky (6160), M, June 26, 2001, J, INS 10750. Broumovsko PLA: between Šonov and Vysoká (5364), 530 m a. s. l., M, June 16, 1997, C, INS 7339. Orlické hory Mts PLA: Černá Voda (5764), 800 m a. s. l., M, June 21, 1995, C, INS 11625; Trčkov NNR env. Orlické Záhoří (5664), M, July 28, 2003, MBT, H, INS 11694. Králický Sněžník Mts: Dolní Morava (upper margin of the village, 5866), 2M, June 2, 1999 and May 29, 2003, J, INS 9214 and 11729; Horní Lipka (hydrogeologic spring point, 5866), M, July 14, 2001, J, INS 10309; Horní Morava – Pod Klepáčem (5866), 2M, June 1, 1999, J, INS 9559 and 11750; U strašidel hovel (slope above, 5766) env. Králický Sněžník Mt. NNR 1423.7 m a. s. l., M, August 23, 2001, MT, C + M, INS 10339; between Uhlisko Mt. 1240.7 m, Podbělka Mt. 1307.4 m a. s. l. and the river Morava (5866), M, June 15, 2001, J, INS 10357; Velká Morava – Patzelt's cave (5866), Kamenitý potok brook, M, August 2, 2001, MT, J, INS 10350. Moravia bor. – Rychlebské hory Mts: Kopřivník 924.8 m a. s. l. env. Nýznerov (5768), Bučínský potok brook, M, July 21, 1996, J, INS 7400. Jeseníky Mts PLA: Adolfovice – V Mlýnkách (5768), Javořický potok brook, M, August 1, 1994, J, INS 5683; Brousek Mt. 1114 m a. s. l. (5768, out of PLA) env. Ramzová, Černý potok brook, M, July 27, 1996, J, INS 6570; Filipovice env. Bělá pod Pradědem (5869), 874.4 m a. s. l., Alnetum, M, June 27, 1999, J, INS 10176; Chebzí nr. Česká Ves (5769), M, July 16, 1995, J, INS 6408; Jelení skok hill 851.9 m a. s. l. env. Přemyslov (5868, out of PLA), M, July 25, 1995, J, INS 5744; Jestřáb hill 845.8 m a. s. l. env. Třemešek (6068), Jestřábí potok brook, 618.1 m a. s. l., M, July 13, 1995, J, INS 6375; Lví hora Mt. 1040.1 m a. s. l. env. Horní Lipová (5768), Dlouhá dolina valley, M, July 21, 1996, J, INS 7432; Přemyslov env. Kouty nad Desnou (5868), M, July 21, 1994, J, INS 6439; Ramzová – railway station (5768), M, July 27, 1994, J, INS 6532; Suchý vrch hill 941 m a. s . l. env. Vrbno pod Pradědem – Mnichov (5870), M, June 29, 1995, J, INS 5604; Šumárnik (hovel), env. Šumný 1073 m a. s. l.

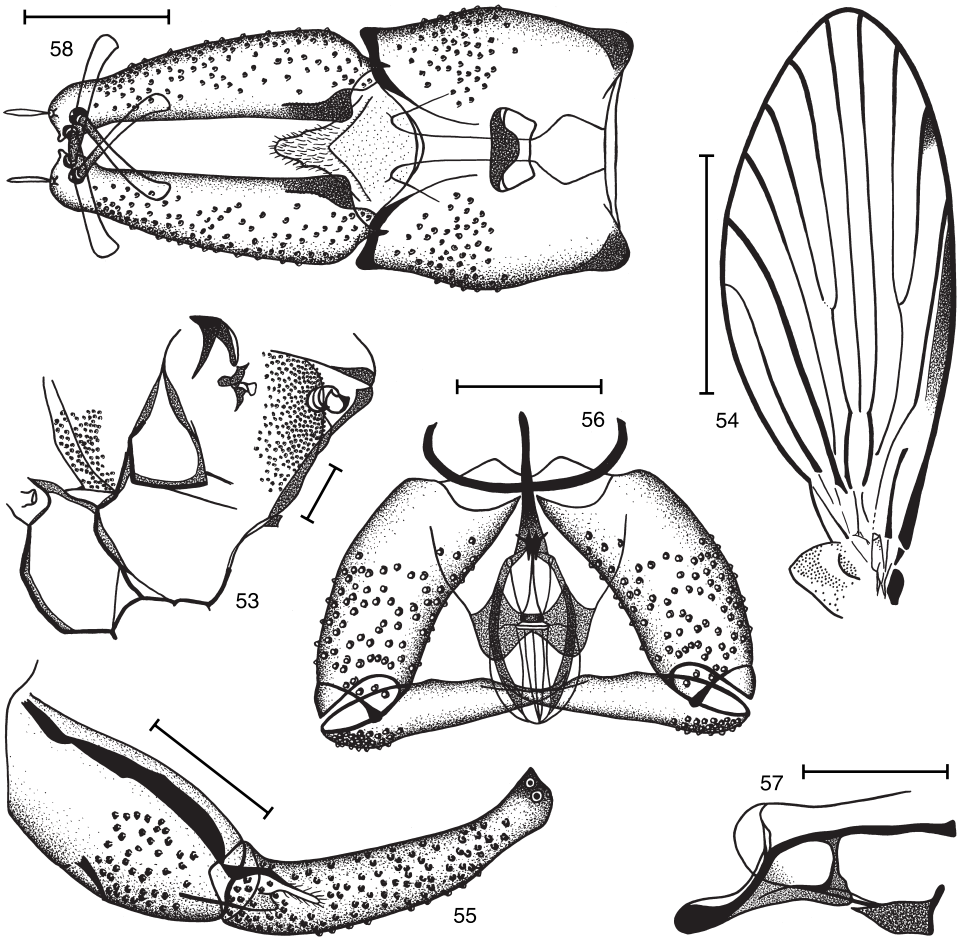



**Figs 45–52.** ***Szaboiella hibernica*** **(Tonnoir, 1940), male: (45) head; (46) facets; (47) basal antennal segments; (48) apical antennal segments; (49) terminal lobe of labium; (50) maxilla and palpus maxillaris; (51) claw of $P_1$; 52 – lateral view of gonocoxite and gonostyle. Scales 0.1 mm.**

(5768), M, June 24, 1999, J, INS 9098; Toč hill 620 m a. s. l. env. Lipová Lázně (5768), M, July 22, 1998, J, INS 10116; Třemešek, env. Šumperk (6068), M, July 13, 1995, J, INS 5730; Velká kotlina basin nr. Karlov pod Pradědem (5969), M, September 18 – October 1, 1994, MT, G, INS 5742. Abkhazia, Caucasus, Bzybskij Khrebet Mts, a pastoral community of the grazing management Kot-kot approximately 2350 m a. s. l. nr. Peak Khimsa 3033 m a. s. l., 6M, August 11, 1985, J, Cat. No. 34246 – 34251, INS 12311 – 12316. Figures are based on INS 12311 and 12312.

Comparative material: Holotype, slide, BMNH (E) 235433 – male, *Libadophila hibernica* [manuscript names] Eaton, Torz Falls, Killarney, C°. Kerry, Ireland, 12$^{b}$.vi.1902, Eaton N°.7b, Eaton Bequest, B.M.1929–590, noted: palpi, antennae, genitalia, wings. Two paratypes (slides): BMNH(E) 235435 – male, ditto, Eaton N°.7a; BMNH(E) 235436 – male, *Pericoma hibernica* Tonnoir, ditto, 13.vi.1902.

Differential diagnosis: This here redescribed species has gonocoxites almost cylindrical, a little arched, without long setae basally, gonostyli almost straight, conspicuously and suddenly narrowed from dorsal view, with short pointed tips, bent subapically (Figs 52, 56). Aedeagal complex more or less rounded, not compacted with basal parts (Figs 56, 57), without transversal structures distad. Surstyli with two long retinaculi of




**Figs 53–58.** ***Szaboiella hibernica*** **(TONNOIR, 1940), male: (53) lateral view of thoracic sclerites; (54) wing; (55) lateral view of epandrium and surstylus; (56) dorsal view of aedeagal complex and gonopods; (57) lateral view of aedeagal complex; (58) dorsal view of epandrium and surstyli. Scales 0.1 mm, in Fig. 54 1 mm.**

the same size and one retinaculum very short (Fig. 58). Closely related *Szaboiella binunciolata* (SATCHELL, 1955) has gonocoxites widened basally, with several long setae, gonostyli gradually tapering to the long tip and conspicuously bent; aedeagal complex prolonged and all parts compacted together, with transversal structures distad. Retinaculi (3) in one cluster have quite different size.

Description: Male. Eyes separated, frons with irregularly interrupted dorsoventral stripe of hairs (Fig. 45). The minimum distance between eyes corresponds to two diameters of facets (Fig. 46), closely below frontal suture equals approximately to their threefold. Ratios of distance of apices of ends of eyes to minimum width of frons 4.9 : 1, to facet diameter 9.8 : 1. Antennae (Figs 47, 48) 16-segmented. Scape almost cylindrical, short, somewhat widened distad. Pedicel nearly globular. Flagellar segments cask-shaped, symmetrical. Apical antennal segment with a long finger-like protuberance. Sensory filaments (Fig. 48) long, needle-shaped, paired. Ratios of lengths of segments of

maxillary palps (Fig. 50) 1 : 1.2 : 1.5 : 2.7. Last segment of maxillary palpus annulate. Terminal lobe of labium as in Fig. 49. Ratio of maximum length of cibarium to length of epipharynx 2.8 : 1. Thoracic sclerites – Fig. 53. Wings widely lancet-shaped, 2.0–2.8 mm long (Fig. 54), almost clear, clouded only between C and distal part of $R_1$ as well as distal end of $R_2$. Strengthened veins or their parts: Sc, $M_4$, end of all radial and rest of medial veins, basis of Cu and basal cell. Basal costal nodes distinct, well visible, Sc uninterrupted. Origins of $M_3$ and Cu are out of $M_4$. R5 extends distally to reach wing margin behind the apex of the wing. Index of maximum length (measured from the line connecting basis of basal costal node and neala) to maximum width of wing 2.5. Medial wing angle 166° (BCD). Indices of wing AB : AC . AD = 4.3 : 4.2 : 4.1; BC : CD : BD = 1 : 1.6 : 2.6 (A = end of $R_5$, B = radial fork, C = medial fork, D = end of Cu). Ratio of maximum length of halteres to their maximum width 2.9 : 1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1$ = 1.8 : 2 : 1; $P_2$ = 1.9 : 2.2 : 1.1; $P_3$ = 2.1 : 2.6 : 1.1. Paired tarsal claws of $P_1$ as in Fig. 51. Basal apodeme of male genitalia narrow and straight (dorsal and lateral aspects). Aedeagal complex as in Figs 56, 57. Gonocoxites (Figs 52, 56) long, a little arched from dorsal and lateral view. Gonostyli almost straight, with short pointed tips, bent subapically. Epandrium (Figs 55, 58) haired, partially divided in the middle, with a large notch caudally. Only central aperture developed, with strengthened caudal margin. Sclerotized remainders of 10th tergite and sternite inside of epandrium inconspicuous from dorsal aspect. Hypandrium narrow, without swollen parts. Epiproct short and broad, reversely V-shaped, top oriented caudally. Hypoproct large, broad basally, reversely U-shaped, tongue-shaped, conspicuously narrowed in caudal- and two basal quarters. Both parts haired, hairs of epiproct are much finer. Surstyli (Figs 55, 58) long, almost straight (dorsal aspect) or inconspicuously C-shaped (lateral view), a little narrowed before end, apex almost globular, with two long retinaculi subapically, one short retinaculum terminally and an small excentric tubercle. Female subgenital plate was illustrated by Jung (1956) and Sarà (1956).

Bionomy: The mature larva and pupa is known, complete information see Vaillant (1979). Habitats: Mountain streams with large stones and fallen trees, wallowing grounds, brooks, forest spring areas, rocky slopes, avalanche cirques, wells, riverine wetlands and pastures, ponds, soaks, swamps, bogs, swampy driveways of estate of cottages, wet queen of the prairie meadows, cribs, village polluted gutters. The elevation of localities in Europe: 400 – 1470 m a. s. l., in Abkhazia to 2350 m**.** Dominant plants of the localities with some comments to the biotopes are recorded in details on the labels of the most slides.

Distribution: Czech Republic, France, Germany, Great Britain, Greece (Thessaly), Hungary, Ireland, Italy, Serbia, Slovenia, Spain. New to Abkhazia.

New synonymy: Here figured wide and rounded aedeagus (Fig. 56) of *hibernica* from Abkhazia (slide INS 12311) represents extreme variability in contrast to the narrow and pointed aedeagus in the Krek's (1991) illustration of *thessalica.* The last mentioned form of aedeagus is generally very frequent in *hibernica.* The length of aedeagus depends on the rotation of aedeagal complex in Canadian balsam. *Szaboiella hibernica* (Tonnoir, 1940) = *Pericoma* (*Leptopericoma*) *thessalica* Krek, 1991 syn. n. Vaillant's (1978) subgenus *Leptopericoma* was synonymized with *Pericoma* Walker, 1856 by Salamanna et Sarà 1980 (the same type species: *Psychoda trifasciata* Meigen, 1804).

Comments on the generic classification: The generic unavailable name *Szaboiella* (type species not designated) was used at first in the short key differential diagnosis for males and larvae by Vaillant (1971). The genus is valid only since 1979, when

Vaillant designated *Pericoma hibernica* TONNOIR, 1940: 41 as type species of the genus *Szaboiella.* Recently the genus comprises following species: *S. hibernica* (TONNOIR, 1940) – Europe, Caucasus; *S. binunciolata* (SATCHELL, 1955) – Canary Islands; *S. modenesii* SALAMANNA et RAGGIO, 1984 – Italy; two additional species were described on the basis of larvae: *S. foliacea* VAILLANT, 1979 – Corsica and *S. spinosa* VAILLANT, 1979 – France.

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