

**JUNGIELLA HYGROPHILA SP. N. (DIPTERA, PSYCHODIDAE,
PARAMORMIINI) WITH REDESCRIPTIONS OF CZECHOSLOVAK SPECIES
OF JUNGIELLA S. STR.**

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The investigation of moth flies in Czechoslovakia is still far from finished. The contemporary state was illustrated by Rozkošný (1971) where the number of moth flies was raised to 44 species. Since that time, large collections of moth flies have been made in the National Museum (Nat. Hist.), Praha during 17 years by the author and some 40 000 specimens of psychodids are available. Some of these have provided a significant insight into the Czechoslovak moth flies and have increased the number of species meanwhile to 85. Yet I feel this is but a small part of the total and would hazard a guess that even now no more than 85 species of the moth flies are known.

The results in this paper are given of a systematic study of Psychodidae and a revised classification of the family, based on morphological characters of the adults, is put forward. This paper is an attempt to bring together all the available information about three recorded species of Czechoslovakia from *Jungiella* s. str., a small and compact subgenus of *Jungiella* Vaillant, 1972; subgenera *Psychogella* Ježek, 1984 and *Psychocha* Ježek, 1983 were discussed by Ježek (1984) and some intergeneric relationships including mentioned genus by Ježek (1983b).

Genus *Jungiella* Vaillant

Jungiella auct. (nec Ježek, 1983a, b; 1984), partim; Krek, 1971: 173; Vaillant, 1972: 81; Ježek, 1979: 341; Krek, 1979a: 1805; b: 19; c: 125; Wagner, 1979: 42; Caspers et Wagner, 1980: 77; Wagner, 1980: 120; Salman et Vaillant, 1982: 195.

Jungiella (subgenus of the genus *Jungiella* auct.), partim; Vaillant, 1972: 83; Ježek, 1979: 341.

Telmatoscopus auct. (nec Eaton, 1904), partim; Barendrecht, 1934: 80; Tonnoir, 1934: 74; Enderlein, 1935: 247; Tonnoir, 1940: 30; Kloet et Hincks, 1945: 333; Freeman, 1950: 87; Jung, 1956: 176; Sarà, 1958: 3; Szabó, 1960a: 211; b: 426; Vaillant, 1960a: 72; b: 165; Nielsen, 1961: 137; Vaillant, 1963b: 226; Giljarov, 1964: 657; Nielsen, 1964: 152; Botosaneanu et Vaillant, 1965: 79; Bellier, 1967: 58; Sarà et Salamanna, 1967: 65; Tanasijčuk, 1969: 128; Rozkošný, 1971: 141; Szabó, 1972—1973: 167; 1975: 73; 1983: 39.

Telmatoscopus (subgenus of the genus *Telmatoscopus* auct.), partim; Kloet et Hincks, 1945: 333; Vaillant, 1960a: 99; 1963b: 229; Nielsen, 1964: 153; Sarà et Salamanna, 1967: 65.

Telmatoscopus auct. (nec Eaton, 1904); Sarà, 1957: 4; Vaillant, 1963a: 328; Krek, 1967: 315.

Telmatoscopus (subgenus of the genus *Telmatoscopus* auct.); Vaillant, 1963a: 328. *Thelmatoscopus* (lapsus) Feuerborn, 1922: 102, partim.

Pericoma auct. (nec Walker, 1856), partim; Schiner, 1864a: 17; b: 635; Eaton, 1893: 126; 1894: 21; 1896: 208; Kertész, 1902: 298; Becker, Bezzi, Bischof, Kertész et Stein, 1903: 163; Tonnoir, 1919: 12; Feuerborn, 1922: 20; Tonnoir, 1934: 74.

Jungiella sensu Ježek, 1983a: 235; b: 258; 1984: 167.

Type-species: *Pericoma soleata* Walker, 1856 (by orig. des.)

Differential diagnosis: Genus *Jungiella* Vaillant, 1972 as well as genera *Panimerus* Eaton, 1913, *Psycmera* Ježek, 1984, *Telmatoscopus* Eaton, 1904, *Paramormia* Enderlein, 1935 and *Parajungiella* Vaillant, 1972 have index of length of first antennal segment to second 1.7—3.9. Sensory filaments of flagellar segments finger-like, simple. Apical segments of flagellum pitcher-shaped. Last segment of maxillary palpus annulate, Sc long. Hypandrium developed. On the other hand genera *Trichopsychoda* Tonnoir, 1922, *Philosepedon* Eaton, 1904, *Feuerborniella* Vaillant, 1971 and *Threticus* Eaton, 1904 have index of length of first antennal segment to second 0.9—1.4. Sensory filaments of flagellar segments two- or three-branched. Apical segments of flagellum with reduced necks. Last segment of maxillary palpus not annulate. Sc short. Hypandrium not developed. Genus *Jungiella* Vaillant, 1972 as well as genera *Parajungiella* Vaillant, 1972, *Psycmera* Ježek, 1984, *Panimerus* Eaton, 1913 and *Telmatoscopus*, Eaton, 1904 with developed corniculi — if it is missing, then the first flagellar segments with tufts of long spines. Sensory filaments, if developed, are not arranged in rings. Sc curved distad; if straight then it is not widened. On the other hand genus *Paramormia* Enderlein, 1935 has not corniculi developed. Sensory filaments arranged in rings. Sc straight, widened distad. Genera *Jungiella* Vaillant, 1972 and *Parajungiella* Vaillant, 1972 with medial wing angle 122—163°, index of base of M_{1+2} , A to maximum width of wing 2.1—2.3. Pedicel globular. Additional sabre-shaped protuberances of male genitalia are not developed, furca presented. On the other hand genera *Psycmera* Ježek, 1984, *Panimerus* Eaton, 1913 and *Telmatoscopus* Eaton, 1904 with medial wing-angle 185—212°; index of base of M_{1+2} , A to maximum width of wing 1.8—2.0; pedicel seldom globular — if it is globular, then corniculi entirely missing. Additional sabre-shaped protuberances of male genitalia developed, furca missing. Genus *Jungiella* Vaillant, 1972 has basal apodeme wide from dorsal view, narrow from lateral view. Index of distance of tangential points of the eye's ends to minimum of width of frons 3.9—5.6; corniculi long — if it is semiglobular, then frontal suture triangular, with prolonged sides; index of length of first antennal segment to second 1.8—3.2; number of retinaculi 8—12. Genus *Parajungiella* Vaillant, 1972 has basal apodeme narrow from dorsal view, widened from lateral view. Index of distance of tangential points of the eye's ends to minimum of width of frons 2.1—2.4; corniculi semiglobular; index of length of first antennal segment to second 3.8—3.9; number of retinaculi 18—24.

Bionomy: Vaillant (1972) published a key to last instar larvae of some palaeartic species of genus *Jungiella* Vaillant, 1972. Vaillant (1971, 1972) designated as habitats of larvae of species of the mentioned genus alluvial deposits of mud and sand on banks of slowly flowing water, larvae live among decomposed leaves and in moist moss. Adults were collected by the author of this paper on banks of ditches, on heaps of fine moist rubbish, spring areas, near steep torrents, brooks, moist meadows, swamps in areas of inundated forests, outflows of ponds in open landscape as well as in forest.

Distribution: 20 species of three subgenera in palaeartic part of holarctic area only.

Discussion: Genus *Jungiella* Vaillant, 1972 is in this paper used in contrast to Vaillant in a narrower sense because of genera *Parajungiella* Vaillant, 1972 and *Satoba* Ježek, 1984 which were excluded by Ježek (1984) from this genus. There is an extinct species from mexican amber *Telmatoscopus hurdi* Quate, 1963 (♂) with very long scape and a rest of antennal segments closely related to a genus resembling the genus *Jungiella* Vaillant, 1972. Because of 2—4 branched sensory filaments it will probably be a so far undescribed new genus. The generic position of *Telmatoscopus pannosus* Satchell, 1955 from Rhodesia is also problematic because of inadequate original figures. A study of type-material is badly needed.

Subgenus *Jungiella* s. str.

Jungiella s. str. sensu Vaillant, 1972: 83, partim.

Jungiella s. str. sensu Ježek, 1979: 341, partim.

Jungiella s. str. sensu Ježek, 1983a: 235; 1984: 167.

Type species: *Pericoma soleata* Walker, 1856 (by orig. des., error.)

Differential diagnosis: Subgenera *Jungiella* s. str. and *Psychogella* Ježek, 1984 have additional protuberances of male copulatory organ conspicuously developed, jointed connection of these protuberances is distinct. On the other hand subgenus *Psychocha* Ježek, 1983 does not have additional caudal protuberances of male copulatory organ developed or only as inconspicuous sclerites, where its jointed connection is not distinct. Subgenus *Jungiella* s. str. has additional caudal protuberances of male copulatory organ entirely free, veins in the central area of wing not strengthened. Subgenus *Psychogella* Ježek, 1984 does not have additional caudal protuberances of male copulatory organ free, veins in the central area of wing strengthened.

Bionomy: Adults were collected by author of this paper only in moist localities — banks of brooks, streams and ditches, spring areas, moist meadows, swamps, outflows of ponds and heaps of fine moist rubbish.

Distribution: 9 species in palaeartic part of holarctic area: *Jungiella* (*Jungiella*) *soleata* (Walker, 1856) — Europe centr., occ. and mer.; *J. (J.) danica* (Nielsen, 1964) — Europe occ.; *J. (J.) furcillata* Krek, 1979 — Balkan; *J. (J.) hygrophila* sp. n. — ČSSR; *J. (J.) jadarica* Krek, 1979 — Balkan; *J. (J.) lasvae* Krek, 1979 — Balkan; *J. (J.) parva* (Sarà, 1957)

— Europe mer.; *J. (J.) septentrionalis* Krek, 1979 — Balkan; *J. (J.) valachica* (Vaillant, 1963) — Europe centr. and mer.

Discussion: Vaillant (1972) established *J. soleata* (Walker, 1856) as type-species of the genus *Jungiella* Vaillant, 1972 and in the same paper *J. parvula* (Vaillant, 1960) wrongly as type-species of the subgenus *Jungiella* s. str. This nominate subgenus has automatically the same type-species as the genus *Jungiella* Vaillant, 1972. It was discussed by Ježek (1979). Subgenus *Jungiella* s. str. includes mostly species which were named by Vaillant (1972) as „*Jungiella* der Gruppe *soleata*“.

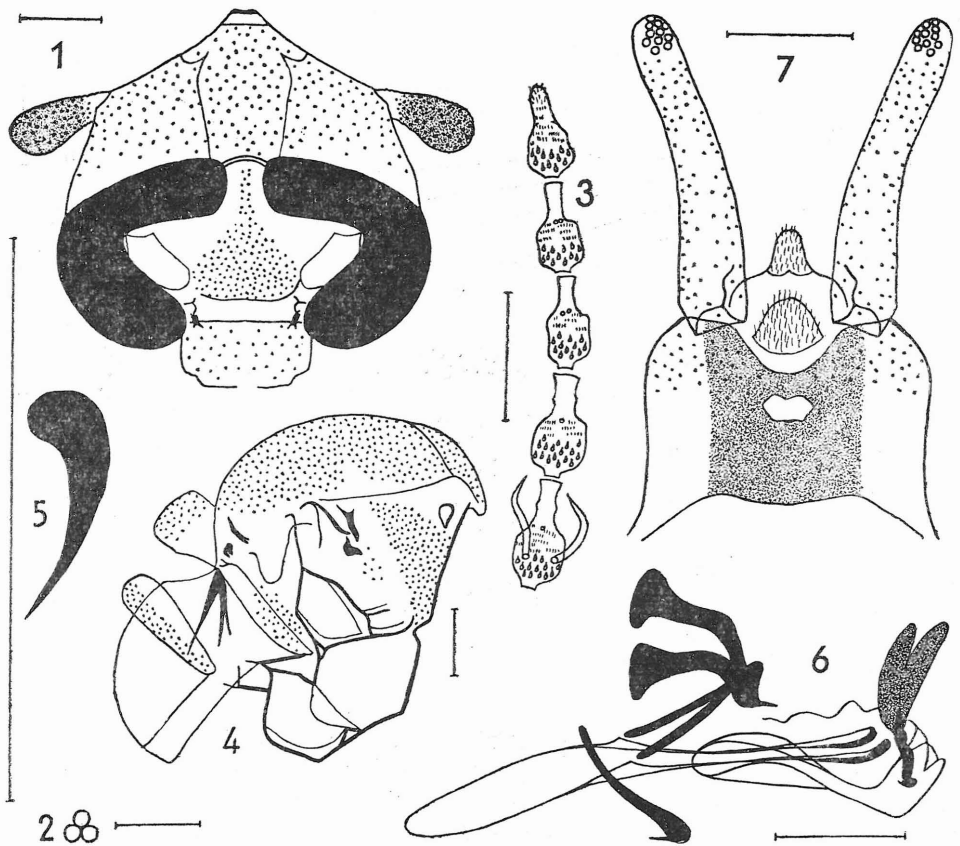
***Jungiella (J.) hygrophila* sp. n.**

(Figs. 1—13)

Diagnosis. Medium size, wing length 2 mm. Paired extremities of male copulatory organ at right angle to short ribs originating from basal apodeme.

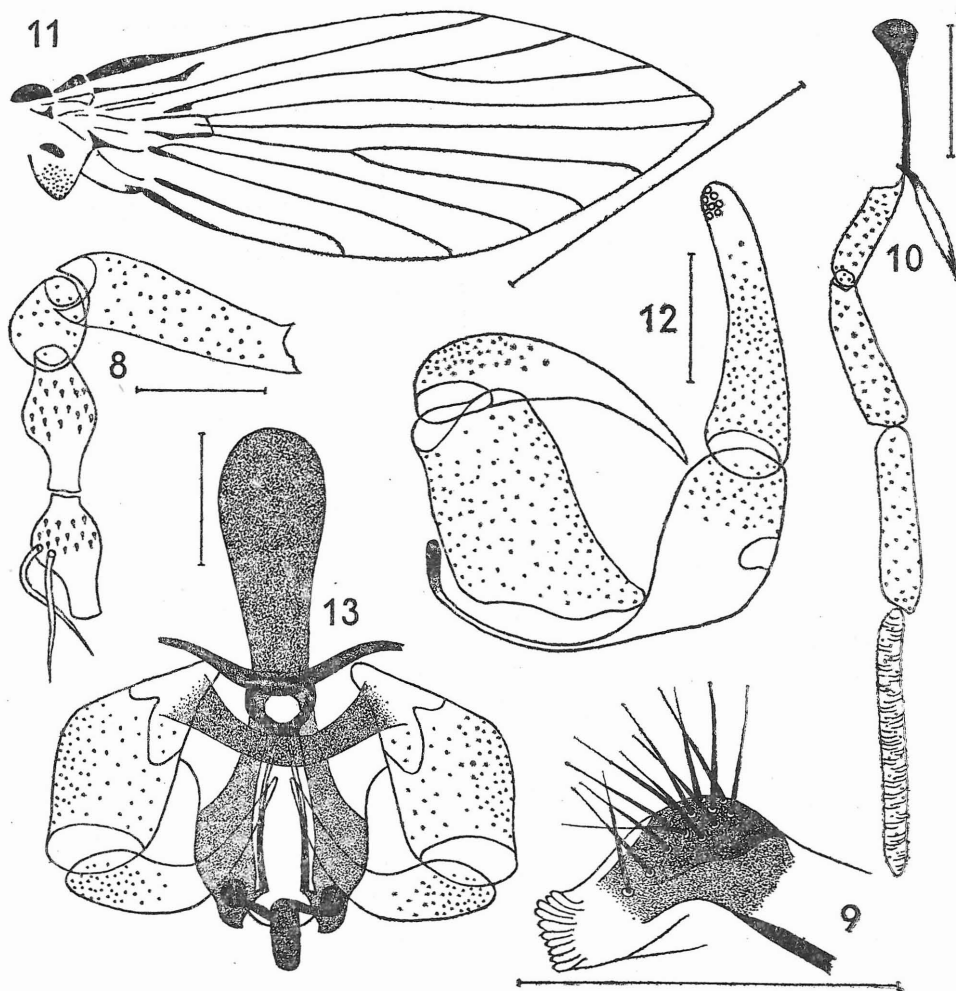
Male. Wide of frons more than twice larger than diameter of one facet. Index of the distance of tangential points of the eye's ends to the minimum width of frons 4.2, to facet diameter 8.4. Frons with a stripe of hairs in dorso-ventral line. Antennae 16-segmented, scape long, a little widened distad, pedicel oval-shaped. Index of length of first antennal segment to second 2.8; ratio of maximum width of pedicel to width of first and second flagellar segments 2.1 : 2.0 : 1.9*). Index of length of first flagellar segment to second 1.2. Flagellar segments bottle-shaped, apical antennal segment with a finger-like protuberance, rather long. Sensory filaments of antennae rather large, paired, finger-like. Ratios of lengths of segments of maxillary palpus 3.4 : 4.4 : 5.0 : 7.2; last segment of maxillary palpus annulate and connected basally to top of the preceding segment. Ratio of maximum length of cibarium to length of epipharynx 1.7 : 1. Corniculi with rather short stem; ratio of length of corniculi to its maximum width at base 4.1 : 1. Wings without pigmentation, lancet-shaped, without conspicuously swollen veins in their central areas, wing membrane bare, basal costal nodes distinct. Sc rather long, uninterrupted, bent distad. R_1 almost straight, the origin of R_{2+3} behind a half of basal field, a little bent to fore margin of wing, R_2 straight, R_3 bent to hind margin of wing, angle of R_3 and R_{2+3} as figured. R_4 only a little bent to the radial fork, R_5 almost straight, with the end a little below apex of wing. M_{1+2} rather widened at base, straight, as well as M_1 and M_2 , which are bent distad to hind margin of wing. M_3 almost straight, M_3 and Cu without a connection on M_4 . The angle of r-r and r-m almost straight, m-m missing. Medial wing angle 147°. Indexes of wing: AB : AC : AD = 8.2 : 9.6 : 10.3, BC : CD : BD = 2.6 : 2.8 : 5.7. Index of base of M_{1+2} , A to maximum width of wing 2.3. Ratio of length of haltere to its width 3.1 : 1. Ratios

*] Ratios with more than two numbers are given in this paper in fields of ocular micrometre.



Figs. 1—7: *Jungiella (J.) hygrophila* sp. n. ♂; 1: head; 2: facets; 3: apical antennal segments; 4: thorax laterally; 5: claw of P_1 laterally; 6: copulatory organ laterally; 7: epandrium and cerci dorsally (retinaculi omitted). Scales 0.1 mm.

of lengths of femora, tibiae and first tarsal segments: $P_1 = 13.7 : 17.2 : 8.0$; $P_2 = 15.4 : 22.0 : 9.5$; $P_3 = 15.0 : 24.5 : 9.8$. Paired tarsal claws very long, thin, pointed. Basal apodeme of male genitalia straight, conspicuously widened anteriorly. Furca developed, paired extremities of male copulatory organ at right angle to short paired ribs originating from basal apodeme. Male copulatory organ smooth outside. Coxopodites outside with an inconspicuous protuberance, harpagones conspicuously curved (almost at a right angle) from dorsal view, pointed apically. Index of length of coxopodites to length of harpagones from dorsal view 1.1. Aperture oval-shaped, narrowed antero-posteriorly. Hypandrium narrow, a little widened in the middle. Epiproct triangular, with rounded tops, distinctly haired, the width of epiproct a little greater



Figs. 8—13: *Jungiella (J.) hygrophila* sp. n. ♂; 8: basal antennal segments; 9: terminal lobe of labium; 10: maxilla and palpus maxillaris; 11: wing; 12: coxopodit, harpagon, epandrium and cercus laterally (retinaculi omitted); 13: copulatory organ, coxopodites and harpagones dorsally. Scales 0.1 mm., in fig. 11 1 mm.

than its length. The length of hypoproct approximately equal to maximum width at base, hypoproct finger-like, distinctly haired. Cerci only a little bent from ventral view, with 10—12 retinaculi subapically. Index of length of cercus to length of epandrium from lateral view 1.9. The top of cercus without bifurcation.

Material: 26 ♂♂. Holotype (♂), Cat. No. 32905, Czechoslovakia, Polanka nad Odrou (12. 6. 1975). Paratypes (11 ♂♂), Cat. No. 32906—32915 and 32973, labelled Czechoslovakia, Jabkenice (5. 6. 1974), Polanka nad Odrou (12. 6. 1975) and Úhošťany (11. 6. 1981); another material from Měrunice and Závada (Karviná distr.)*. All Ježek lgt.

Comments on the material: Figures based on the holotype. Because of illustrations and checking of the important diagnostic characters the specimens were dissected and mounted in Canada Balsam on microscope slides. Deposited in the Department of Entomology of the National Museum (Nat. Hist.), Praha.

Occurrence in ČSSR: VI.

Bionomy: The adults were collected on banks of streams, in spring areas and heaps of fine moist rubbish shaded by *Alnus*, *Populus*, *Salix*, *Sambucus*, *Quercus*, *Betula*, *Fraxinus*, *Crataegus*, the undergrowth with *Rosa*, *Urtica*, *Mnium* and *Scirpus*.

Distribution: ČSSR.

Discussion: The species is closely related to *J. (J.) soleata* (Walker, 1856).

Jungiella (J.) soleata (Walker)

(Figs. 14—26)

Pericoma soleata Walker, 1856: 257; Schiner, 1864a: 17; b: 635; Eaton, 1893: 126; 1894: 21; 1896: 208; Kertész, 1902: 298; Becker, Bezzi, Bischof, Kertész et Stein, 1903: 163; Tonnoir, 1919: 12; Feuerborn, 1922: 20.

Pericoma malleolata Feuerborn, 1922: 83; Tonnoir, 1934: 74.

Telmatoscopus soleatus; Barendrecht, 1934: 80; Tonnoir, 1934: 74; 1940: 30; Freeman, 1950: 87; Jung, 1956: 176; Sarà, 1958: 3; Szabó, 1960a: 211; Nielsen, 1961: 138; Giljarov, 1964: 657; Botosaneanu et Vaillant, 1965: 79; Tanasijčuk, 1969: 128; Szabó, 1972—1973: 167; 1975: 73; 1983: 40.

Telmatoscopus (Telmatoscopus) soleatus; Kloet et Hincks, 1945: 333; Vaillant, 1960a: 106; 1963b: 229.

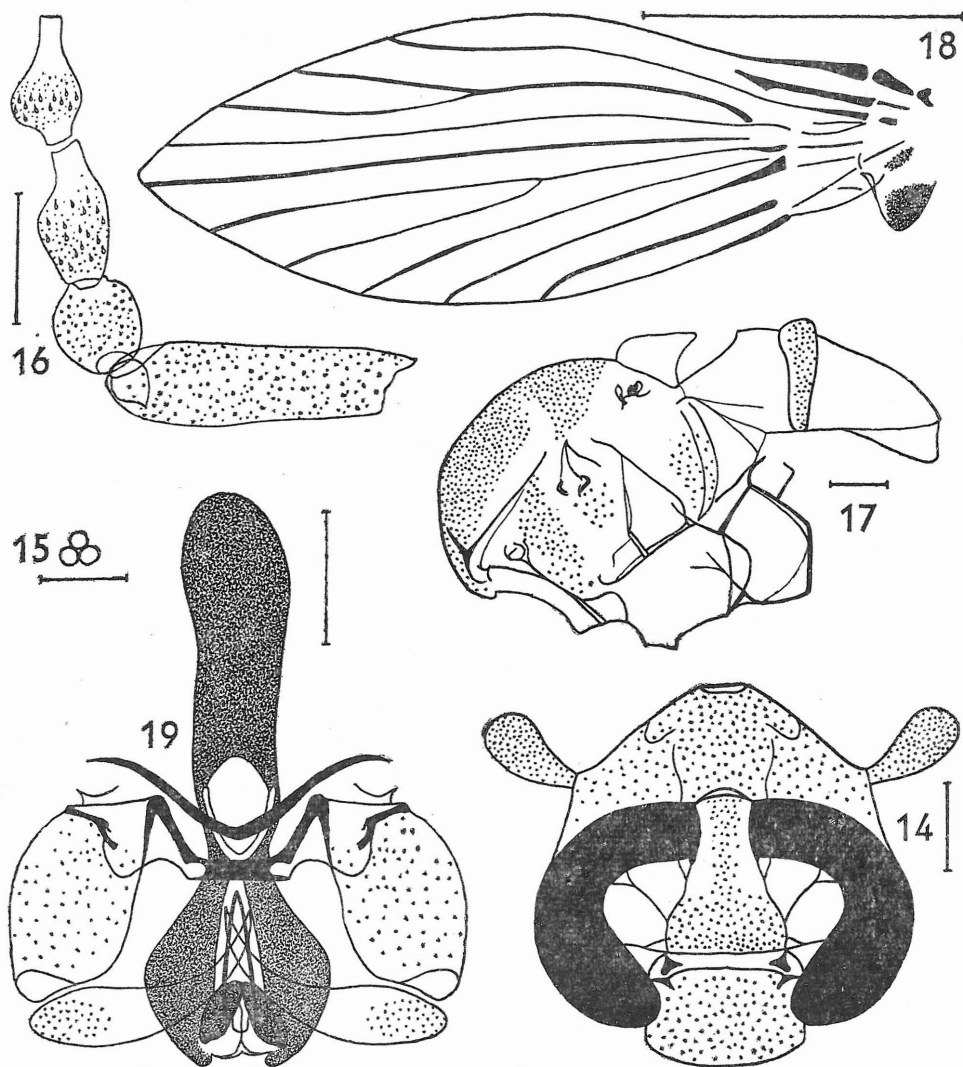
Jungiella soleata; Krek, 1971: 177; Wagner, 1979: 43; Caspers et Wagner, 1980: 77; Salman et Vaillant, 1982: 201.

Jungiella (Jungiella) soleata; Vaillant, 1972: 92; Ježek, 1979: 341; 1984: 167.

Diagnosis. Medium size, wing length 2.0—2.3 mm., paired extremities of male copulatory organ at a very small angle to very short paired ribs originating from basal apodeme.

Male. The minimum distance between eyes approximately twice as larger as the facet diameter. Index of the distance of tangential points of the eye's ends to the minimum width of frons 3.9, to the facet diameter 8.5. Frons with a stripe of irregularly placed hairs. Antennae haired, 16-segmented. Scape long, cylindrical, pedicel almost globular. Index of length of first antennal segment to pedicel 3.2; ratio of maximum width of pedicel to width of first and second flagellar segment 2.4 : 2.0. Index of length of first flagellar segment to second 1.1, both

*] The name of the district town is only given where according to the alphabetic list of settlements of ČSSR one or more homonyms of the locality exist.



Figs. 14—19: *Jungiella (J.) soleata* (Walk.) ♂; 14: head; 15: facets; 16: basal antennal segments; 17: thorax laterally; 18: wing; 19: copulatory organ, coxopodites and harpagones dorsally. Scales 0.1 mm., in fig. 18 1 mm.

segments asymmetrical. Flagellar segments bottle-shaped, the finger-like protuberance of the last segment pestle-shaped, with many minute hairs. Sensory filaments of antennae of middle size, paired, fin-

ger-like. Ratios of lengths of segments of maxillary palps 4.5:5.4:5.4:8.8. The last segment of maxillary palpus annulate and connected basally with top of preceding segment. Corniculi with rather short stem, index of its length to maximum width 2.0, to its minimum width at base 5.6. Ratio of maximum length of cibarium to length of epipharynx 1.7:1. Wings without pigmentation, lancet shaped, membrane bare, with some veins only a little strengthened. Both basal costal nodes conspicuously distinct. Sc long, uninterrupted. R_1 bent to Sc, a little strengthened distad, the origin of R_{2+3} on the end of basal field, R_{2+3} strengthened, conspicuously bent to Sc, angle of R_3 and R_{2+3} smaller than angle of R_2 and R_{2+3} . R_3 narrowed basally. R_4 bent to the radial fork, R_5 straight, with the end below the apex of the wing. M_{1+2} not widened at base but a little curved basally, in other parts straight. Both M_1 and M_2 straight, a little bent to the fore margin of the wing distad and strengthened. The angle of M_2 and M_{1+2} smaller than the angle of M_1 and M_{1+2} . M_3 bent to the medial fork, M_3 and Cu without a connection on M_4 . The veins r-r, r-m and m-m not visible. The medial wing angle approximately 146° . Indexes of wing: AB:AC:AD = 9.3:10.5:10.9, BC:CD:BD = 2.9:3.3:5.9. Index of base of M_{1+2} , A to maximum width of wing 2.2. The length of halteres to its maximum width 2.3:1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1 = 14.8:17.6:9.1$; $P_2 = 15.8:22.0:10.5$; $P_3 = 15.6:25.0:10.1$. Basal apodeme of male genitalia straight, without bifurcation proximally. Furca developed. Paired extremities of male copulatory organ at a very small angle to very short paired ribs, originating from basal apodeme. Male copulatory organ smooth outside. Coxopodites outside without protuberances, approximately of the same length as harpagones from dorsal view. Index of maximum length of coxopodites to length of harpagones from dorsal view 0.9. Aperture of epandrium well visible, narrowed antero-posteriorly. Hypandrium narrow, without widened parts. Epiproct triangular, with rounded tops, width of epiproct a little larger than its length. Both epiproct and hypoproct haired, hypoproct of the same shape as epiproct. Cerci almost straight from ventral view, with 9 retinaculi subapically. Index of length of cercus to length of epandrium from lateral view 1.7. Cercus without bifurcation caudally.

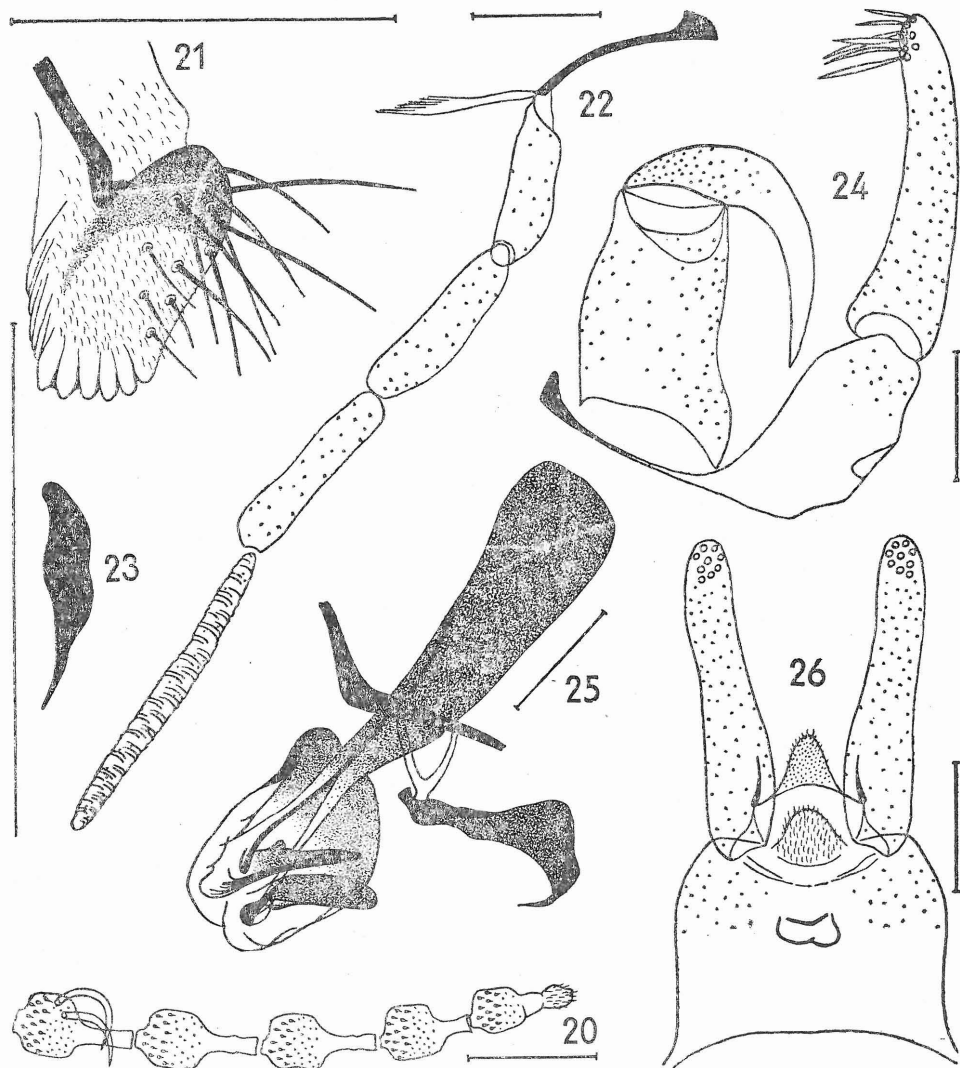
Material: 100 ♂♂. Bohemia: Jabkenice, Měrunice, Ostrožno (Jičín distr.), Račice (Litoměřice distr.), Úhošťany. Moravia: Bordovice, Frenštát pod Radhoštěm, Ostrava, Polanka nad Odrou, Pržno (Vsetín distr.), Rožnov pod Radhoštěm. All Ježek lgt.

Comments on the material: First records of this species from Czechoslovakia were published by Ježek (1982) and aren't quoted here. Figured specimen of male is labelled Pržno (Vsetín distr.), 16. VI. 1975 and is mounted in Canada Balsam on a microscope slide.

Occurrence in ČSSR: V—VI.

Bionomy: The last instar larvae and pupa were described by Jung (1956). A key-diagnosis was published by Vaillant (1960a), however without distinguishing characters to „*longicornis*“. Jung (1956) registered following habitats of larvae: moist moss near weirs, mill races,

waterfalls, springs, in the moist leaves and cracked alders. Life cycle one year. Vaillant (1972) wrote that larvae occur in mud of banks of slowly flowing streams, rich with humus. This species was collected in Yugoslavia at an altitude of 1370 m. Sexual dimorphism (spines or brus-



Figs. 20—26: *Jungiella [J.] soleata* (Walk.) ♂; 20: apical antennal segments; 21: terminal lobe of labium; 22: maxilla and palpus maxillaris; 23: claw of P_1 laterally; 24: coxopodit, harpagon, epandrium and cercus laterally; 25: copulatory organ dorso-laterally; 26: epandrium and cerci dorsally (retinaculi omitted). Scales 0.1 mm.

hes of basal antennal segments, male corniculi] was recorded by Duckhouse (1962) and sexual attraction was studied by Feuerborn (1922). Adults were collected by author near streams, ditches, moist pasturelands, drainages, areas of springs, swamps, ponds shaded by *Alnus*, *Populus*, *Salix*, *Fraxinus*, *Tilia*, *Acer*, *Corylus* and *Sambucus*, undergrowth with *Scirpus*, *Filipendula*, *Cirsium*, *Urtica*, *Mnium* and *Rubus*.

Distribution: Belgium, Czechoslovakia, Denmark, England, France, Hungary, Italy, Netherlands, Romania, Switzerland, West Germany, Yugoslavia.

Data about type-material and type-locality: Walker (1856) based the description of „*Pericoma soleata*, n., Hal. MSS“ on the base of the specimens deposited in Dale's collection of the museum in Oxford, however it was probably destroyed. Duckhouse (1962) used the name „*soleata*“ in the sense of material from Eaton's collection (British Museum, Natural History), especially in the sense of the slide labelled 91a. Duckhouse established and figured neotypus from new material collected in England from a locality in Leicestershire.

Discussion: Duckhouse suggested that some specimens of Eaton's collection are wrongly labelled „*soleata*“ however sensu mentioned author the correct determinations are *Telmatoscopus mooni* Duckhouse, 1962 and *T. sylviae* Duckhouse, 1962. Both mentioned names were synonymized by Vaillant (1972): *T. mooni* Duckhouse, 1962 = *J. acuminata* Szabó, 1960; *T. sylviae* Duckhouse, 1962 = *J. parvula* Vaillant, 1960. Vaillant figured and redescribed this species on the basis of a specimen from Tonnoir's collection labelled ♂, 1. VI. 1921, Belgium, Falaen, M. Goetghebuer lgt., no. 18073. On the base of material from West Germany Jung (1956) established unrooted „hypotypoid“ of male labelled Vach, 20. XI. 1951, Nr. 91 as well as female from the same locality, 20. IV. 1952, Nr. 92.

Jungiella (*J.*) *valachica* (Vaillant)

(Figs. 27–39)

Telmatoscopus (*Telmatoscopus*) *valachicus* Vaillant, 1963a: 328; Nielsen, 1964: 154. *Telmatoscopus valachicus*; Krek, 1967: 315; Botosaneanu et Vaillant, 1965: 79; Szabó, 1983: 39.

Jungiella valachica; Krek, 1971: 178; 1979a: 1805; b: 19; c: 127; Wagner, 1979: 43; Salman et Vaillant, 1982: 201.

Jungiella (*Jungiella*) *valachica*; Vaillant, 1972: 93; Ježek, 1984: 167.

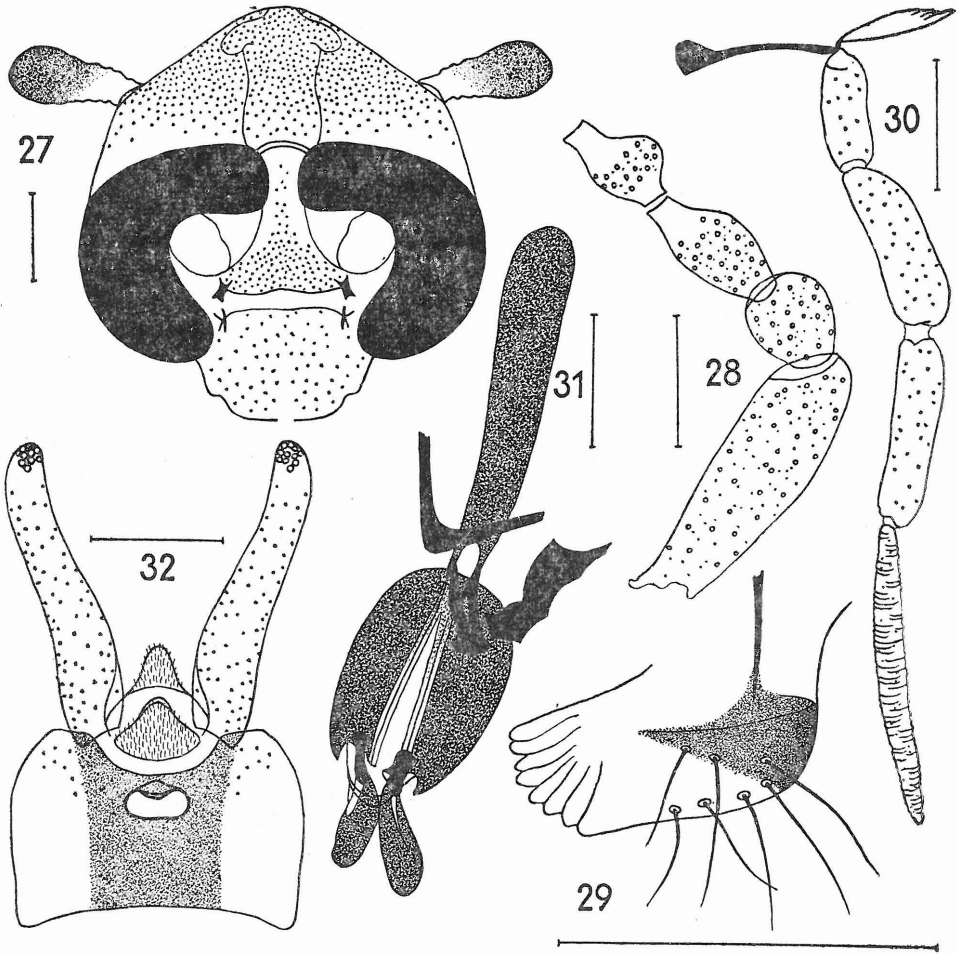
Jungiella (*Jungiella*) *valachica* var. *typica* Vaillant, 1972: 93.

Jungiella (*Jungiella*) *valachica* var. *bosniaca* Vaillant, 1972: 93.

Diagnosis. Species of middle size, wing length 1.9–2.2 mm., veins in central area of wing without strengthened parts, in contrast to swollen Cu basally. Paired sclerotized jointed extremities of male copulatory organ characteristically long, situated caudally, ribs originating from basal apodeme very long.

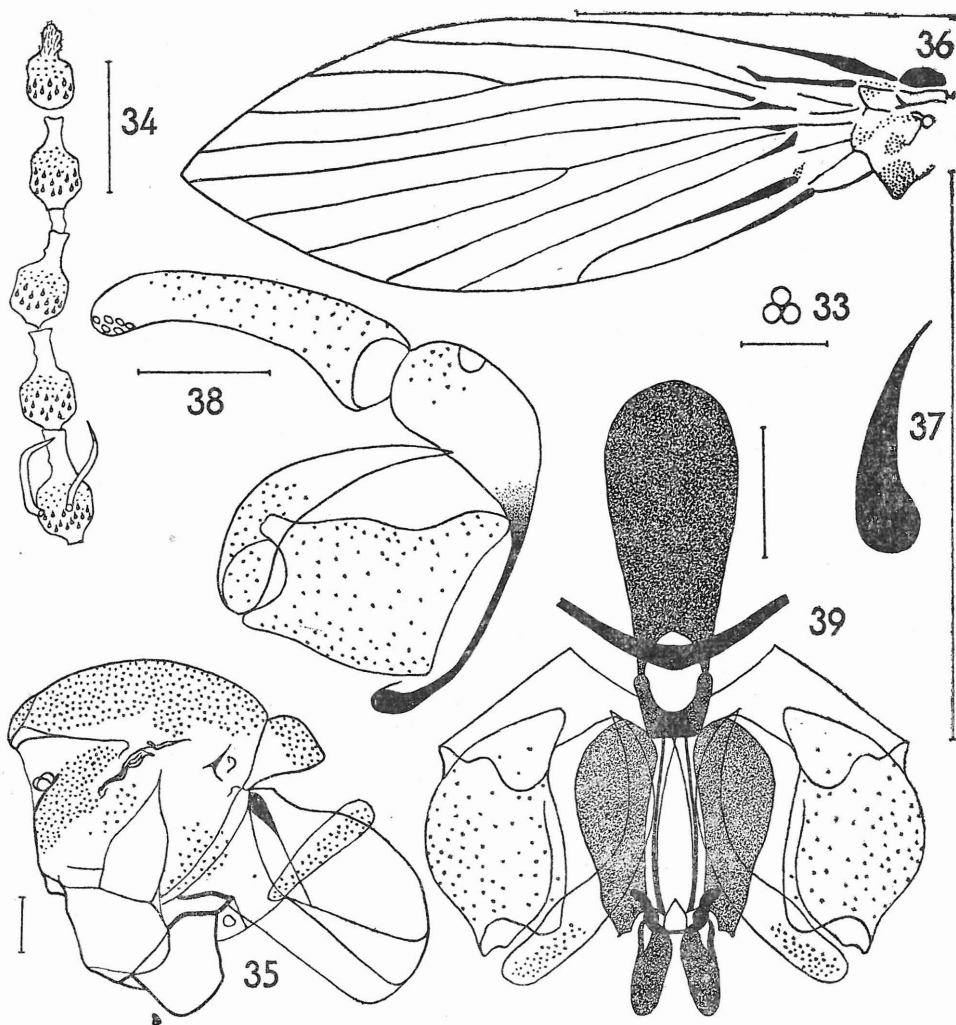
Male. Index of facet diameter to minimum width of frons 0.6. Index of distance of tangential points of eye's ends to minimum width of frons

5.1, to facet diameter 9.2. Frons with an interrupted stripe of hairs. Antennae 16-segmented, scape almost cylindrical, ratio of length of scape to its width in the middle approximately 3:1, index of length of first antennal segment to pedicel 3.0; ratio of maximum width of pedicel to width of first and second flagellar segment 2.3:1.9:1.9. Index of length of first flagellar segment to second one 1.3. Pedicel almost globular, flagellar segments bottle-shaped, the first and second flagellar segments asymmetrical, the last segment with a finger-like protuberance. Sensory filaments of antennae rather large, finger-like. Ratios of lengths of



Figs. 27—32: *Jungiella [J.] valachica* (Vail.) ♂; 27: head; 28: basal antennal segments; 29: terminal lobe of labium; 30: maxilla and palpus maxillaris; 31: copulatory organ dorso-laterally; 32: epandrium and cerci dorsally (retinaculi omitted). Scales 0.1 mm.

segments of maxillary palpus 3.3:4.8:5.2:8.1. Last segment of maxillary palpus annulate and connected basally with the apex of preceding segment. Ratio of maximum length of cibarium to length of epipharynx 2.1:1. Corniculi with rather short stalk parts, ratio of length of corniculi to its maximum width 2.3:1, to minimum width at base 4.6:1. Wings without pigmentation, widely lancet shaped, veins of central area with-



Figs. 33—39: *Jungiella (J.) valachica* (Vail.) ♂; 33: facets; 34: apical antennal segments; 35: thorax laterally; 36: wing; 37: claw of P₁ laterally; 38: coxopodit, harpagon, epandrium and cercus laterally (retinaculi omitted); 39: copulatory organ, coxopodites and harpagones dorsally. Scales 0.1 mm., in fig. 36 1 mm.

out swollen parts, only Cu strengthened basally. Wing membrane bare, distal costal nodus connected with C, basal costal nodus well developed. Sc rather long, uninterrupted, broken distad. R_1 arched to Sc, the origin of R_{2+3} adpressed to basal field in two thirds of its length. R_{2+3} bent to C as well as R_2 . Angle of R_2 and R_{2+3} smaller than angle of R_3 and R_{2+3} . R_3 inconspicuously bent to hind margin of wing. R_3 and R_{2+3} are in the same line. R_4 arched basally to fore margin of wing, R_5 almost straight, with end a little behind apex of wing. M_{1+2} very widened at base, almost straight as well as M_1 and M_2 . Angle of M_1 and M_2 rather large. M_3 and M_4 almost straight, M_3 and Cu without a connection on M_4 . Veins r-r, r-m and m-m not visible. Medial wing-angle 151° . Indexes of wing: AB : AC : AD = 8.9 : 10.1 : 10.7, BC : CD : BD = 2.8 : 3.0 : 5.6. Index of base of M_{1+2} , A to maximum width of wing 2.2. Ratio of length of halteres to its width 3.3 : 1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1 = 13.5 : 17.3 : 8.5$; $P_2 = 15.1 : 22.0 : 10.1$; $P_3 = 15.0 : 24.0 : 10.0$. Paired tarsal claws very narrow at the end, only a little bent. Basal apodeme of male genitalia almost straight, not divided, widened proximally. Furca developed. Paired, jointed sclerotized parts of male copulatory organ characteristically long, situated in caudal position. Male copulatory organ smooth outside. Coxopodites outside with inconspicuous protuberance, harpagones a little longer than coxopodites from dorsal view, conspicuously bent and pointed apically. Aperture of epandrium oval-shaped, antero-posteriorly a little narrowed. Hypandrium narrow, only in the middle inconspicuously widened. Epiproct and hypoproct triangular with rounded tops, distinctly haired, hypoproct almost twice shorter than epiproct. Cerci only inconspicuously S-shaped from ventral view, with 11 retinaculi subapically. Index of length of cercus to length of epandrium 2.1 from lateral view. The top of cercus without a bifurcation.

Female unknown.

Material: 10 ♂♂. Bohemia: Dolní Bezděkov (Kladno distr.), Charvatce (Mladá Boleslav distr.), Měrunice, Ostružno (Jičín distr.), Praha-Dolní Chabry, Račice (Litoměřice distr.), Úhošťany. Moravia: Ostrava, Pržno (Vsetín distr.), Tichá (Nový Jičín distr.). All Ježek lgt.

Comments on the material: First record of this species from Czechoslovakia was published by Ježek (1982) and isn't quoted here. The figured male was collected by author near Charvatce (Mladá Boleslav distr.), 5. VI. 1974 and mounted in Canada Balsam on microscope slide.

Occurrence in ČSSR: V—VII.

Bionomy: The larva was described by Vaillant (1963a). Other finds were registered by Vaillant (1972) from St. Negrea. The larvae were collected by Botosaneanu near a plain spring, from which some were reared to eclosion of adults in June and July. The adults were collected also by Krek near the spring Stavjna (Yugoslavia), 670 m. above sea level. The author of this paper collected adults on banks of streams, creeks, drainages, in swamps and moist pasturelands shaded by *Alnus*, *Salix*, *Populus*, *Tilia*, *Ulmus*, *Fraxinus*, *Acer*, *Sambucus*, *Picea*, *Pinus*, *Car-*

pinus, *Corylus* and *Crataegus*, the undergrowth with *Asarum*, *Scirpus*, *Urtica* and *Rosa*.

Distribution: Czechoslovakia, Romania, Yugoslavia.

Data about type-material and type-locality: Unknown.

Discussion: Nielsen (1964) described from Denmark *Telmatoscopus* (*Telmatoscopus*) *valachicus* Vaillant, 1963 new ssp. *danicus*. Vaillant (1972) recognized this taxon as a valid species.

Summary

Jungiella hygrophila sp. n. is described from Czechoslovakia and *J. ([.]) soleata* (Walk.) as well as *J. ([.]) valachica* (Vail.) are redescribed. All important diagnostic characters are figured and data about type-material of mentioned species are given. Full synonymies and references to genus *Jungiella* Vail., subgenus *Jungiella* s. str. and its three Czechoslovak species are quoted as well as differential diagnoses, known bionomy and distribution; some taxonomical problems are discussed.

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