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A TAXONOMIC STUDY OF THE GENERA *PSYCMERA* JEŽ. AND *PARAJUNGIELLA* VAIL. (DIPTERA, PSYCHODIDAE) OF CZECHOSLOVAKIA

The Psychodid fauna of Czechoslovakia appears to be a rich one. I would estimate that there may be more than 100 species of this group in this country. The recent acquisition of a large number of Czechoslovak moth flies has prompted the inception of a series of papers dealing with the taxonomy of the family of this region. It is anticipated that most of the study will be unlisted records of previously described species. The paper is based on author's material deposited in the National Museum (Praha). Intergeneric relationships of some *Paramormiini* End. with the genera *Psycmera* Jež. and *Parajungiella* Vail. were demonstrated by JEŽEK (1983b).

I am indebted to Dr. Demoulin (Brussels, Inst. Royal Sci. Nat. de Belgique) as well as to Dr. Cranston (London, British Museum, Nat. Hist.) for loaned type-material. My thanks are due also to Prof. Neunzig (Raleigh, North Carolina, N. C. State University, U. S. A.), who kindly checked my English in a MS of this paper.

GENUS *PSYCMERA* JEŽEK

Psycmera Ježek, 1983a: in press.

Telmatoscopus auct. (nec Eaton, 1904), partim; Jung, 1956: 172; Vaillant, 1963: 226; Tanasijčuk, 1969: 126.

Panimerus (subgenus of the genus *Telmatoscopus* auct.), partim; Jung, 1956: 179.

Panimerus auct. (nec Eaton, 1913), partim; Krek, 1971: 184; Vaillant, 1972: 63.

Panimerus (subgenus of the genus *Panimerus* auct.), partim; Vaillant, 1972: 65.

Type-species: *Telmatoscopus integellus* Jung, 1956 (by orig. des.)

Differential diagnosis: This genus as well as genera *Panimerus* Eaton, 1913, *Telmatoscopus* Eaton, 1904, *Paramormia* Enderlein, 1935, *Parajungiella* Vaillant, 1972 and *Jungiella* Vaillant, 1972, have index of the length of the first antennal segment to pedicellus 1.7—3.9. Sensory filaments of antennae finger-like. The apical flagellar segments pitcher-like. The last segment of the maxillary palpus annulated. 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 the length of the first antennal segment to pedicellus 0.9—1.4. Sensory filaments on the antennae with two or three arms. The distal parts of the apical flagellar segments reduced and narrowed. The last segment of the maxillary palpus without an annulation. Sc short. Hypandrium not developed. Genus *Psycmera* Ježek, 1983a as well as genera *Panimerus* Eaton, 1913, *Telmatoscopus* Eaton, 1904, *Parajungiella* Vaillant, 1972 and *Jungiella* Vaillant, 1972 usually have corniculi developed — if not developed, the first flagellar segments have tufts of spines. The sensory filaments, when developed, are not arranged in annuli. Sc broken distad; if it is straight, it is not widened. On the other hand in the genus *Paramormia* Enderlein, 1935 corniculi not developed. Sensory filaments on the antennal segments form annuli. Sc straight, widened distad. Genera *Psycmera* Ježek, 1983a, *Panimerus* Eaton, 1913 and *Telmatoscopus* Eaton, 1904 have the medial angle of the wing 185—212°; index of the base of M_{1+2} , A to the maximal width of the wing 1.8—2.0; the pedicellus not globular — if it is globular, the corniculi not developed. The additional prominences of the male genitalia sabre-shaped, furca missing. Genera *Parajungiella* Vaillant, 1972 and *Jungiella* Vaillant, 1972 have the medial wing-angle 122—163°, index of the base of M_{1+2} , A to the maximal width of the wing 2.1—2.3. The pedicellus globular. The additional prominences of the male genitalia missing, furca developed. Genera *Psycmera* Ježek, 1983a and *Panimerus* Eaton, 1913 have corniculi developed. Index of the length of the first antennal segment to the length of pedicellus 2.4—2.9. The pedicellus not globular. The width of pedicellus is much larger than the width of the first flagellar segment. The condition of the sensory filaments on antennae determined. 15th antennal segment with a narrowed' reduced part. The first flagellar segments without tufts of spines. The main basal apodeme short, the major male copulatory organ internally not as above. On the other hand at the genus *Telmatoscopus* Eaton, 1904 corniculi not developed. Index of the length of the first antennal segment to the pedicellus 3.7. The pedicellus globular, its width only a little larger than the width of the first flagellar segment. Condition of sensory filaments on antennae not determined. 15th antennal segment with a full developed narrowed part. Tufts of spines on the first flagellar segments. The main basal apodeme long. The main male copulatory organ internally with a pair of complicated sclerotized parts. In contrast to the genus *Panimerus* Eaton, 1913 the genus *Psycmera* Ježek, 1983a has index of the distance of the tangent points of the eye's ends to the minimal width of frons 5.4; index of the length of corniculi to its minimal width at base 15.7; the first and second flagellar segments asymmetrical; the pedicellus with an inconspicuous keel-

shaped protuberance. The pleural thoracic suture straight. The wings clouded. R_5 extends distally to reach wing margin behind the apex of the wing. The base of R_1 and R_{2+3} conspicuously narrowly spaced. Index of the length of the cercus to the length of epandrium from lateral view 2.3. Epandrium with two apertures well separated. The proper male copulatory organ with a pair of long harpoon-like protuberances. On the other hand in the genus *Panimerus* Eaton, 1913 the index of the distance of the tangent points of the eye's ends to the minimal width of frons is 2.8—3.9; index of the length of corniculi to its minimal width at base 6.6—11.0; the first and second flagellar segments symmetrical, pedicellus with a conspicuous keel-shaped protuberance. The pleural thoracic suture inconspicuously bent. The wings without pigmentation. R_5 extends distally to apex of the wing. The base of R_1 and R_{2+3} are widely spaced. Index of the length of cercus to the length of epandrium from lateral view 1.2—1.6. The aperture of epandrium simple. The proper male copulatory organ without a pair of harpoon-like protuberances.

Bionomy: Unknown. The adults occurring on plants on the banks of ponds and swamps.

Distribution: The Palaearctic part of the Holarctic area only a single species *Psycmera integella* (Jung, 1956) — Europe centr. and mer.

Discussion: The genus was established because of the ovoid pedicellus without a distal protuberance, and the fact that the basal parts of R_1 and R_{2+3} are narrowly spaced.

***Psycmera integella* (Jung)**

(Figs. 1—13)

Telmatoscopus integellus Jung, 1956: 183; Tanasijčuk, 1969: 126.

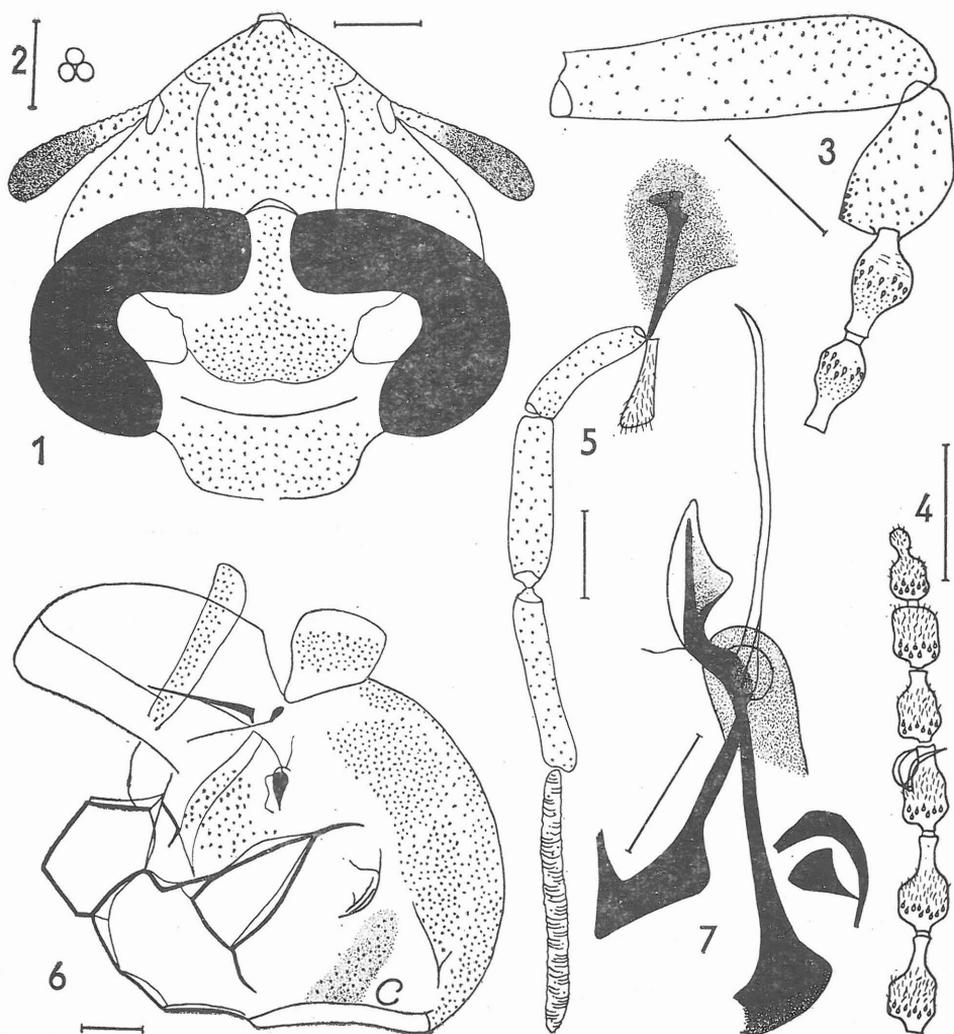
Panimerus integellus; Krek, 1971: 184.

Panimerus (*Panimerus*) *integellus*; Vaillant, 1972: 65.

Psycmera integella; Ježek, 1983a: in press.

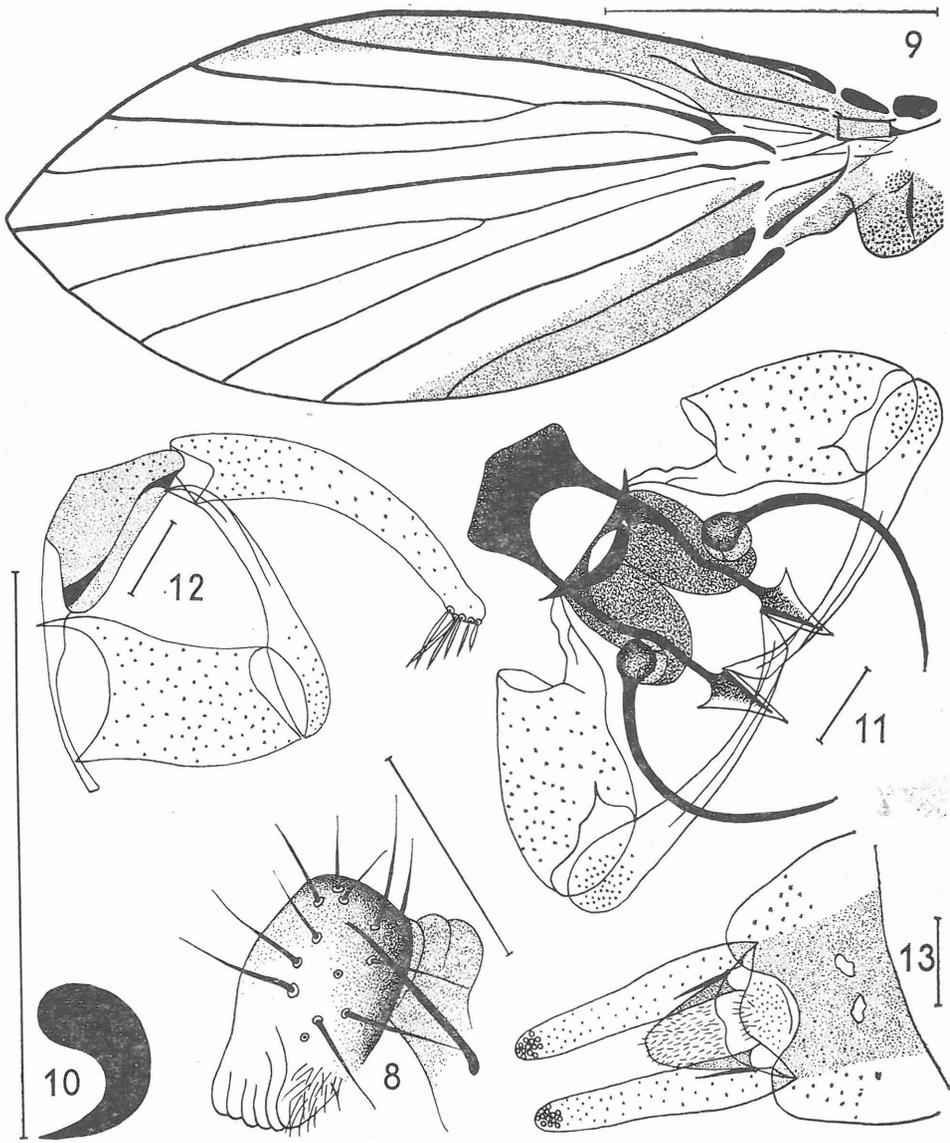
Diagnosis. Rather large species, the length of the wing 2.8—3.2 mm. the wings brownish clouded both at the fore and the hind margin, the paired caudal protuberances of the basal apodeme of the male hypopygium with the characteristic harpoon-like ends.

Male. The minimal width of frons approximately twice larger than the diameter of one facet. The frons with rather wide stripe of irregularly arranged hairs. Index of the distance of the tangent points of the eye's ends to the minimal width of frons 3.4, to the facet diameter 10.1. The antennae 16 segmented, haired. Scapus cylindrical, pedicellus almost egg-shaped, with a dorsal inconspicuous pointed protuberance. Index of the length of the first antennal segment to pedicellus 2.4. Ratio of the maximal width of pedicellus to the width of the first and second flagellar segments 2.6:1.6:1.3. Index of the length of the first flagellar segment to the second one 1.2. The first and second flagellar segment asymmetrical. The flagellar segments flask-shaped. 15th segment with reduced distal narrowed part, 16th segment with pestle-shaped end. The paired sensory filaments of antennae rather small, finger-like. Ratios of the lengths of the segments of the maxillary palpus 3.8:4.6:5.2:7.1. The last



Figs. 1—7. *Psycmera integella* [Jung], ♂: 1 — head, 2 — facets. 3 — basal antennal segments, 4 — apical antennal segments, 5 — maxilla and palpus maxillaris, 6 — thorax laterally, 7 — copulatory organ laterally. Scale 0.1 mm.

segment of the maxillary palpus annulated and connected with the top of the foregoing segment basally. Ratio of the maximal length of cibarium to the length of epipharynx 1.8:1. Corniculi very long, club-shaped. Index of the length of corniculi to its maximal width 4.3, to the minimal width at base 15.7. The wings at the fore and hind margin brownish clouded, lancet-shaped, the wing-membrane bare, without numerous local swollen parts of veins in the central area of the wing. The basal costal



Figs. 8—13. *Psycmera integella* (Jung), ♂: 8 — terminal lobe of labium, 9 — wing, 10 — claw of P₁, 11 — copulatory organ, coxopodites and harpagones dorsally, 12 — hypopygium laterally, 13 — epandrium and cerci dorsally. Scale 0.1 mm., 1 mm. in fig. 9.

nodes distinct. Sc long, uninterrupted. R₁ conspicuously bent to Sc, the origin of R₂₊₃ approximately in the half of the basal field, R₂₊₃ bent to the fore margin of the wing, the base of R₁ and R₂₊₃ narrowly spaced, the angle of the basal part of R₂ and R₂₊₃ larger than the same of R₃, both

R_2 and R_3 in the middle straight, only the distal ends of that inconspicuously bent to the fore margin of the wing. R_4 bent to the radial fork only in the proximal part, the distal part of this vein straight. R_5 straight, extends distally to reach wing margin a little behind the apex of the wing. M_{1+2} straight, not widened basally, the angle of M_2 and M_{1+2} smaller than the same of M_1 and M_{1+2} . Both M_1 and M_2 straight in the middle, only in the distal parts a little bent to the hind margin of the wing. M_3 in the middle bent to the medial fork, M_4 inconspicuously S-shaped, Cu in the distal part conspicuously bent to the hind margin of the wing. M_3 and Cu not attached to M_4 . The condition of veins r-r, r-m and m-m not determined. The medial wing-angle 194° . Indexes of the wing: AB:AC:AD = 14.8:12.9:12.7, BC:CD:BD = 3.5:5.1:8.4. Index of the base of M_{1+2} , A to the maximal width of the wing 2.0. Ratio of the length of halteres to its width 3.4:1. Ratios of the lengths of femora, tibiae and the first tarsal segment: $P_1 = 18.5:21.5:9.8$; $P_2 = 18.6:25.5:11.2$; $P_3 = 21.0:29.5:12.4$. The paired tarsal claws strongly arched. The basal apodeme of the male genitalia with two caudal arms, the tops of which are harpoon-shaped. The main male copulatory organ smooth outside. The length of the external paired protuberances of the male genitalia equals or slightly overlaps the length of coxopodites. Coxopodites prolonged, outside without protuberances. The length of harpagones inconspicuously greater than the length of coxopodites from dorsal view, harpagones characteristically with slightly widened ends. The paired aperture of epandrium with an irregular border on both sides of the antero-posterior line. Index of the length of the cercus to the length of epandrium from lateral view 2.3. Hypandrium narrow, widened in the middle. Cerci straight in ventral view, approximately with 13 retinaculi subapically. The top of the cercus without bifurcation.

Material: 15 ♂♂. Bohemia: Jinolice, Praha-Kunratice. Moravia: Ostrava.

Comments: The figured specimen was collected by the author in Praha-Kunratice 7. 7. 1970.

Occurrence in ČSSR: IV—VII.

Bionomy: The adults occur on the banks of ponds and swamps with *Alnus*, *Salix*, *Sambucus* and *Picea*.

Distribution: Yugoslavia, West Germany. New species for the fauna of ČSSR.

Type-material and type-locality data: Holotype labelled West Germany, Dechsendorf, 28. V. 1951, Jung lgt. and is deposited in Jung's collection.

Discussion: Female unknown, the redescription and additional figures of the male were published by VAILLANT (1972) on the basis of Krek's material from Yugoslavia labelled Dobro Polje env. Kalinovnik, 14. VI. 1968. VAILLANT (1972) measured incorrectly the medial wing-angle of this species.

GENUS PARAJUNGIELLA VAILLANT

Parajungiella (subgenus of the genus *Jungiella* auct.); Vaillant, 1972: 85.

Telmatoscopus auct. (nec Eaton, 1904), partim; Tonnoir, 1919: 12; Barendrecht, 1934: 80;

Tonnoir, 1934: 75; Enderlein, 1935: 247; Kloet & Hincks, 1945: 333; Freeman, 1950: 90; Jung, 1956: 177; Quate, 1960: 144; Szabó, 1960: 211; Vaillant, 1960: 72; Nielsen,

1961: 137; Duckhouse, 1962: 426; Giljarov, 1964: 657; Nielsen, 1964: 152; 1965: 149; Vaillant, 1966: 226; Tanasijčuk, 1969: 128; Rozkošný, 1971: 141.
Telmatoscopus auct. (nec Eaton, 1904); Vaillant, 1973: 667.
Thelmatoscopus (lapsus) Feuerborn, 1922: 102, partim.
Telmatoscopus (subgenus of the genus *Telmatoscopus* auct.), partim; Vaillant, 1960: 99; Nielsen, 1964: 153.
Telmatoscopus (subgenus of the genus *Pericoma* auct.), partim; Tonnoir, 1934: 75.
Pericoma auct. (nec Walker, 1856), partim; Eaton, 1893: 127; Kertész, 1902: 295; Becker, Bezzi, Bischof, Kertész & Stein, 1903: 161; Tonnoir, 1919: 12; Feuerborn, 1922: 83; Tonnoir, 1934: 75.
Panimerus (subgenus of the genus *Telmatoscopus* auct.), partim; Kloet & Hincks, 1945: 333.
Jungiella auct. (nec Ježek, 1983a), partim; Krek, 1971: 174; Vaillant, 1971: 44; 1972: 84.
Parajungiella (gen.) sensu Ježek, 1983a: in press.

Type species: *Pericoma longicornis* Tonnoir, 1919 (by orig. des.)

Differential diagnosis: The genus *Parajungiella* Vaillant, 1972 as well as genera *Psycmera* Ježek, 1983a, *Panimerus* Eaton, 1913, *Telmatoscopus* Eaton, 1904, *Paramormia* Enderlein, 1935 and *Jungiella* Vaillant, 1972 have index of the length of the first antennal segment to the pedicellus 1.7—3.9. The sensory filaments on antennae finger-like. The apical segments of flagellum pitcher-like. The last segment of the 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 the length of the first antennal segment to pedicellus 0.9—1.4. Sensory filaments on antennae with two or three arms. The apical segments of flagellum with reduced narrowed parts. The last segment of the maxillary palpus not annulate. Sc short, hypandrium not developed. The genus *Parajungiella* Vaillant, 1972 as well as the genera *Psycmera* Ježek, 1983a, *Panimerus* Eaton, 1913, *Telmatoscopus* Eaton, 1904 and *Jungiella* Vaillant, 1972 have corniculi usually developed — if missing, the first flagellar segments are with tufts of spines. The sensory filaments, if developed, aren't arranged in annuli. Sc bent distad; if it is straight, it is not widened distally. On the other hand in the genus *Paramormia* Enderlein, 1935 corniculi not developed. The sensory filaments on antennae form annuli. Sc straight, widened distally. Both the genus *Parajungiella* Vaillant, 1972 and *Jungiella* Vaillant, 1972 with the medial wing-angle $122-163^\circ$, index of the base of M_{1+2} , A to the maximal width of the wing 2.1—2.3. The pedicellus globular. The additional sabre-like protuberances of the male genitalia aren't developed, furca present. In contrast the genera *Psycmera* Ježek, 1983a, *Panimerus* Eaton, 1913 and *Telmatoscopus* Eaton, 1904 have the medial wing-angle $185-212^\circ$; index of the base of M_{1+2} , A to the maximal width of the wing 1.8—2.0; the pedicellus not globular — if it is globular, corniculi not present. The additional sabre-like protuberances of the male genitalia developed, furca missing. In the genus *Parajungiella* Vaillant, 1972 the basal apodeme narrow from dorsal view, from lateral view widened. Index of the distance of the tangent points of the eye's ends to the minimal width of frons 2.1—2.4; corniculi semiglobular; index of the length of the first antennal segment to the length of pedicellus 3.8—3.9; the number of retinaculi 18—24. In the genus *Jungiella* Vaillant, 1972 the basal apodeme wide from dorsal view, narrow from lateral view.

Index of the distance of the tangent points of the eye's ends to the minimal width of frons 3.9—5.6; corniculi long-if its shape is semiglobular, a triangular suture in the upper part of the head is developed, sides of the triangle are extended. Index of the length of the first antennal segment to the length of pedicellus 1.8—3.2; the number of retinaculi 8—12.

Bionomy: The life cycle requires one year. The larvae, according to JUNG (1956), live in moist moss or sand associated with streams, swamps, springs, and broken alders. The organs of sexual attraction were studied by FEUERBORN (1922) and sexual dimorphism was studied by DUCKHOUSE (1962). The adults have been found by the present author on the banks of ponds, drainages, swamps, tributaries of rivers, ditches, forest brooks, spring areas, moist pasturelands and moist rubbish-heaps.

Distribution: 6 species in the world — Indo-malayan and Holarctic areas. *Parajungiella taleola* (Quate, 1962) comb. n. — Borneo; *P. consors* (Eaton, 1893) — Europe centr. and sept.; *P. longicornis* (Tonnoir, 1919) — Europe; *P. mongoliana* (Vaillant, 1973) comb. n. - Mongolia; *P. nebras-kensis* (Quate, 1955) comb. n. - U.S.A.; *P. pseudolongicornis* (Wagner, 1975) comb. n. - Europe centr.

Discussion: The taxon formed by elevating the subgenus *Parajungiella* Vaillant, 1972 of the genus *Jungiella* Vaillant, 1972 to generic status because of missing corniculi (JEŽEK, 1983a), a very long first antennal segment and a basal apodeme which is narrow in dorsal view, and widened in lateral view, in contrast to the genus *Jungiella* Vaillant, 1972 with developed corniculi, a short first antennal segment and a basal apodeme that is wide in dorsal view, narrow in lateral view.

Parajungiella consors (Eaton)

(Figs. 14—26)

Pericoma consors Eaton, 1893: 127.

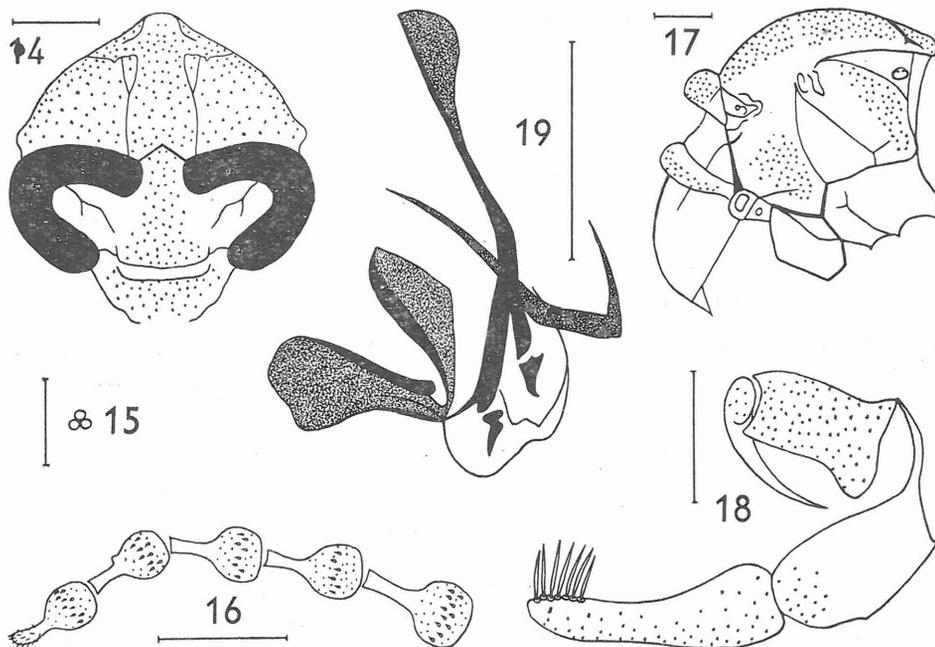
Telmatoscopus (Telmatoscopus) internus Nielsen, 1964: 153. Syn. n.

Jungiella (Parajungiella) interna; Vaillant, 1972: 86.

Parajungiella consors; Ježek, 1983a: in press.

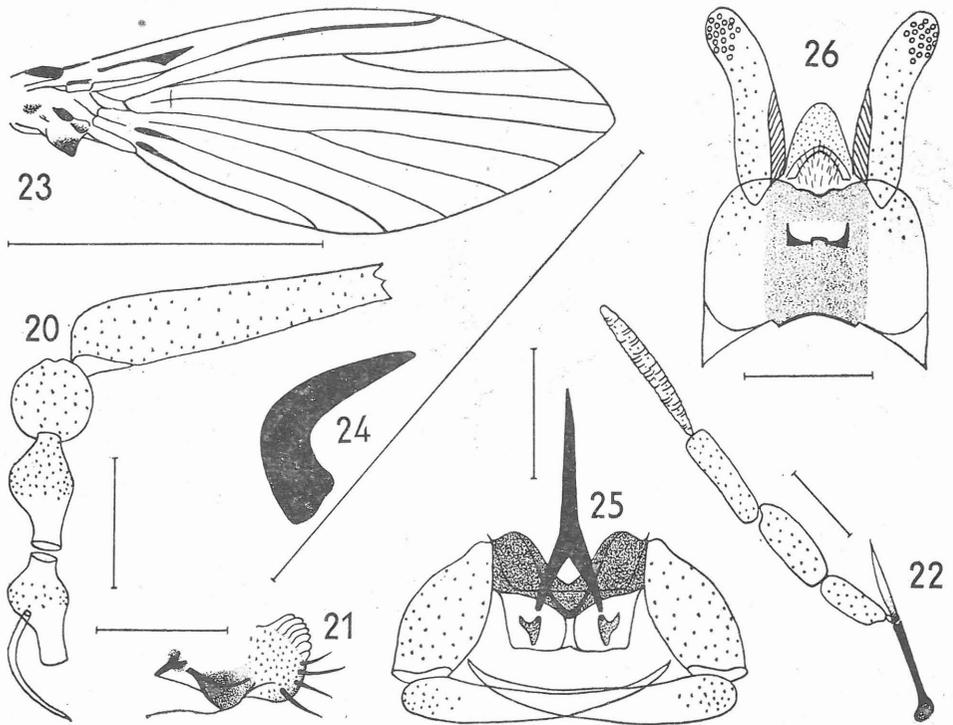
Diagnosis. Rather small species, the wing-length 1.9—2.1 mm., harpagones rather long and thin from lateral view, pointed apically, jointed parts of the male genitalia in the form of short harpoon-shaped sclerites.

Male. The distance between eyes almost 4 times larger than the diameter of one facet. Index of the distance of the tangent points of the eye's ends to the minimal width of frons 2.1, to the facet-diameter 8.3. Antennae 16 segmented, scapus long, cylindrical, pedicellus globular. Index of the length of the first antennal segment to the length of pedicellus 3.9. Ratio of the maximal width of pedicellus to the width of the first and second flagellar segment 2.3:1.8:1.8. The first two flagellar segments of the same length, asymmetrical. The flagellar segments bottle-shaped, the last segment only a little smaller in contrast to the foregoing segments. The sensory filaments of the flagellar segments rather large, finger-like. Ratios of the lengths of the segments of the maxillary palps 2.0:2.6:2.9:4.2. The last segment of the maxillary palpus annulated and connected with the top of the foregoing segment basally. Ratio of the maximal length of cibarium to the length of



Figs. 14—19. *Parajungiella consors* (Eat.), ♂: 14 — head, 15 — facets, 16 — apical antennal segments, 17 — thorax laterally, 18 — hypopygium laterally, 19 — copulatory organ laterally. Scale 0.1 mm.

epipharynx 1.9:1.1. Corniculi in the shape of minute semiglobular protuberances on both sides of the head. Index of the length of corniculi to its maximum width as well as to the minimum width at base 0.4. The wings without pigmentation, lancet-shaped, the veins of the main area of the wing without swollen parts, the wing-membrane bare, the basal costal nodus distinct in contrast to the distal one. Sc rather long, uninterrupted, widened distally. R_1 conspicuously arched to C, the origin of R_{2+3} closely before the end of the basal field, R_{2+3} slightly bent to C, the angle of the proximal part of R_2 and R_{2+3} larger than the angle of the same of R_3 and R_{2+3} . R_4 and R_5 extend distally to reach wing margin far behind the apex of the wing. M_{1+2} almost straight, the base of M_{1+2} without a widened part; both M_1 and M_2 are straight, the angle of the proximal part of M_1 and M_{1+2} is rather small as well as the angle of the same of M_2 and M_{1+2} . M_1 and M_2 a little bent distad to the hind margin of the wing, M_3 inconspicuously bent to the medial fork, M_3 and Cu without a connection on M_4 . The angle of the veins r-r and r-m straight, m-m missing. The medial wing-angle approximately 146° . Indexes of the wings: AB:AC:AD = 7.4:8.1:8.3; BC:CD:BD = 2.3:2.7:4.7. Index of the base of M_{1+2} , A to the maximal width of the wing 2.1. Ratio of the length of halteres to its maximal width 2.3:1. Ratios of the lengths of femora, tibiae and the first tarsal segments: $P_1 = 11:14:6$; $P_2 = 12:17:7$; $P_3 = 12:19:7$. The paired tarsal claws large and rather bent. The basal apodeme



Figs. 20—26. *Parajungiella consors* (Eat.), ♂: 20 — basal antennal segments, 21 — terminal lobe of labium, 22 — maxilla and palpus maxillaris, 23 — wing, 24 — claw of P₁, 25 — copulatory organ, coxopodites and harpagones dorsally, 26 — epandrium and cerci dorsally. Scale 0.1 mm, 1 mm. in fig. 23.

of the male genitalia straight, narrowed and pointed apically from dorsal view, conspicuously widened from lateral view. The jointed parts of the male genitalia of the characteristic shape. The main male copulatory organ inside with a pair of short harpoon-shaped sclerites, outside smooth. The external paired protuberances of the male genitalia are not developed. Coxopodites outside without a protuberance, prolonged, harpagones more than 1.5 times longer than coxopodites from dorsal view, pointed apically. Epandrium of the characteristic shape, the aperture oblong-shaped. Index of the length of the cercus to the length of epandrium from lateral view 1.5. Hypandrium narrow, a little widened in the middle. Epiproct equilaterally triangular with rounded tops, distinctly haired, hypoproct more than twice longer than epiproct. Cerci only a little arched from ventral view, with approximately 18 retinaculi subapically. The top of cercus without a bifurcation.

Female unknown.

Material: 20♂♂. Bohemia: Bělčice (Strakonice distr.), Blatná (Strakonice distr.), Havelovy Dvory, Ohaveč, Srbice (Teplice distr.), Tchořovice. Moravia: Dolní Bojanovice, Otrokovice, Spytihněv. Slovakia: Nižná Myšľa.

Comments: The figured specimen was collected by the author at Otrokovice, 1. 8. 1974. Using the alphabetic list of settlements of ČSSR, I have given the district in this paper when the name of the locality is a homonym.

Occurrence in ČSSR: V—IX.

Bionomy: Unknown. The present author collected adults on the banks of ponds, drainage areas, swamps and tributaries of rivers with *Alnus*, *Salix*, *Carpinus*, *Tilia* and *Quercus*, and an undergrowth of *Scirpus*, *Phragmites*, *Urtica*, *Typha*, *Calamagrostis* and *Carex*.

Distribution: Belgium, Denmark, England. New species for the fauna of ČSSR.

Type-material and type-locality data: On the basis of two syntypes loaned from the British museum (Nat. Hist.) the male specimen from the locality Ashcot env. Glastonbury, 24. VIII. 1891 is designated as the lectotype of *Pericoma consors* Eaton, 1894 and the male specimen from the same locality with date 6. VIII. 1892 is designated as paralectotype. Both specimens were in the past mounted by Eaton on slides. The lectotype was dissected into the head, wings, thorax and abdomen. The head is damaged in the upper part near the right eye, the left antenna incomplete between the first and the second antennal segment. Thorax considerably damaged, only three legs are present. Paralectotype dissected the same way. The head fractured on both sides, without the left maxillary palpus, the left antenna without the apical segment. Only one wing present. The abdomen divided into the male genitalia and the basal abdominal segments. Thorax strongly damaged, two legs missing. Holotype and two paratypes of *Telmatoscopus (Telmatoscopus) internus* Nielsen, 1964 are deposited in Naturhistorisk Museum, Aarhus, Denmark. Type-locality of holotype: Molleaaen, Denmark, 22. VII. 1960, Nielsen lgt.

Discussion: The male genitalia of two loaned syntypes of *Pericoma consors* Eaton, 1893 are of the same shape as figures of the male genitalia of *Telmatoscopus (Telmatoscopus) internus* Nielsen, 1964 and the latter name must therefore be a new synonym of *Parajungiella consors* (Eaton, 1893). The species *Pericoma consors* Eaton, 1893 was correctly identified by Tonnoir, when he determined a specimen with cat. no. 10638 from the Museum of Brussel. The included specimen of the male was quoted by VAILLANT (1972) under the name *Jungiella (Parajungiella) interna* (Nielsen, 1964) labelled Nierpeda-Aa, Belgium, 28. V. 1920, Tonnoir lgt. and is deposited in the collection of Museum Royal des Sc. Nat. de Belgique. VAILLANT (1972) without designating a lectotype, figured what he considered to be *Jungiella (Parajungiella) consors* (Eaton, 1893) based on the specimen from Eaton's collection with the number 93b from Muskros, Killarney, Ireland, however published figures suggest that it is a slightly damaged specimen of *Parajungiella longicornis* (Tonnoir, 1919).

Parajungiella longicornis (Tonnoir)

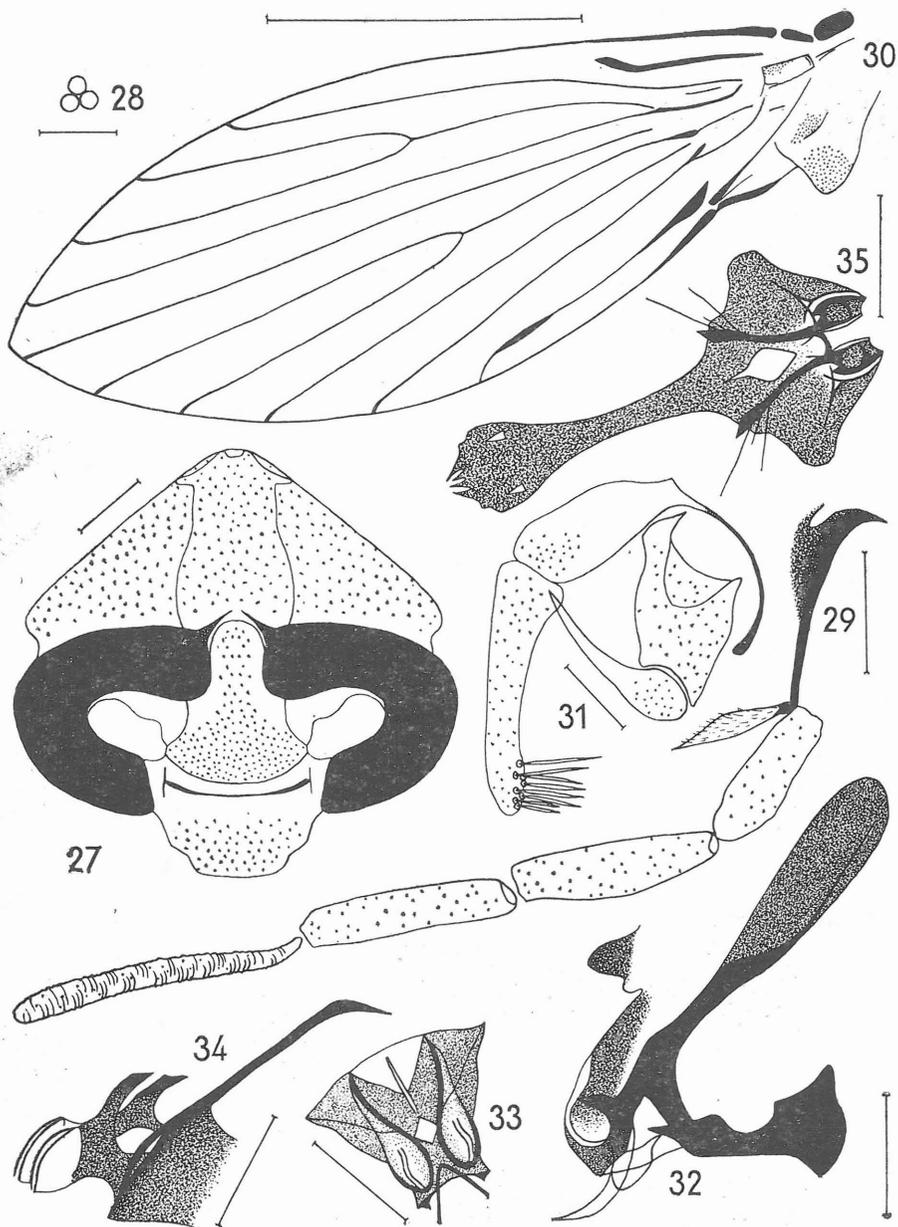
(Figs. 27—44)

Telmatoscopus longicornis Tonnoir, 1919: 12; 1934: 75; Barendrecht, 1934: 80; Jung, 1956: 177; Szabó, 1960: 212; Nielsen, 1961: 138; Duckhouse, 1962: 426; Giljarov, 1964: 657; Nielsen, 1964: 152; 1965: 150; Vaillant, 1966: 228; Tanasijčuk, 1969: 128; Rozkošný, 1971: 140.

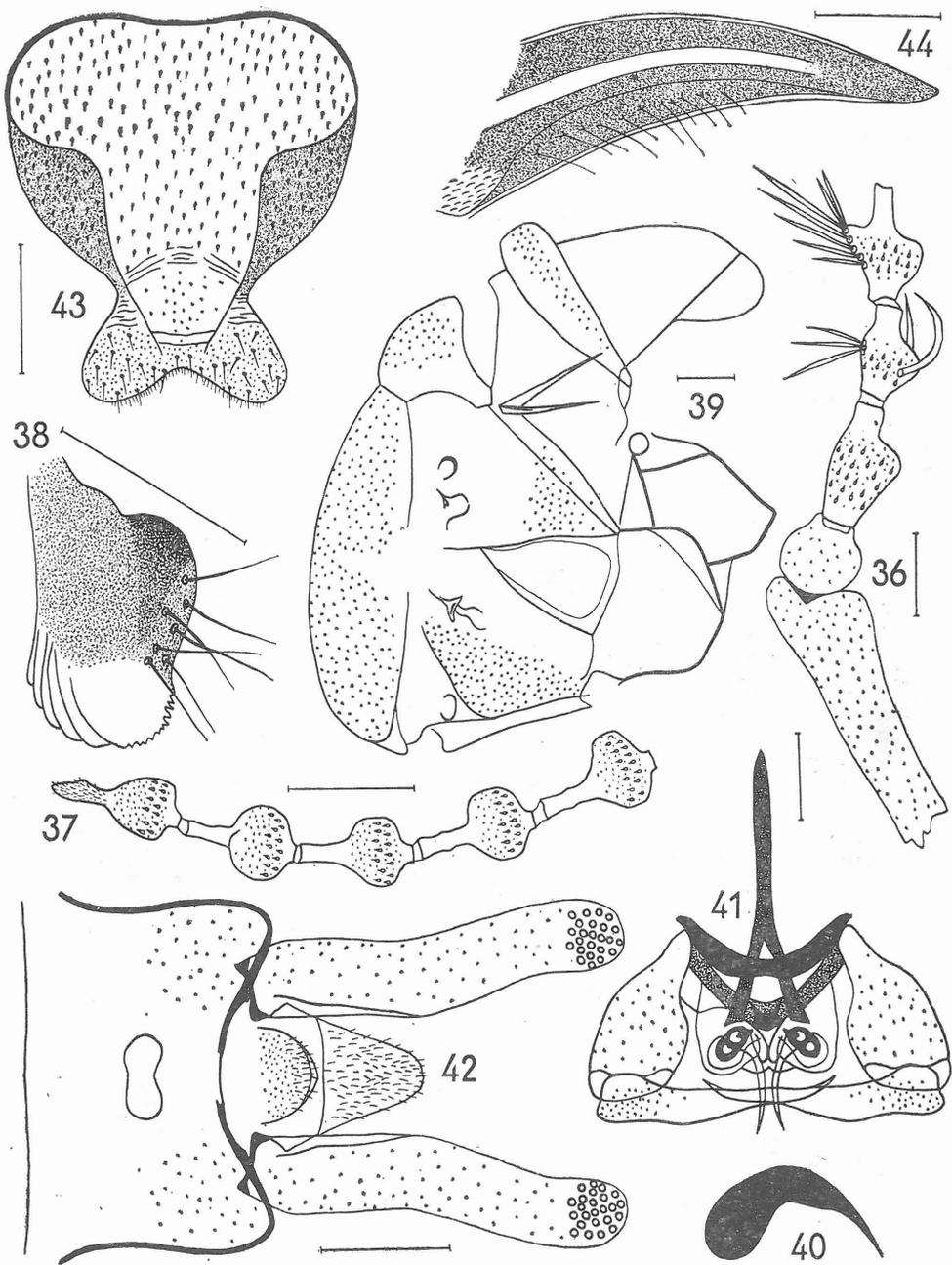
Pericoma consors auct. (nec Eaton, 1893), partim; Kertész, 1902: 295; Becker, Bezzi, Bischof, Kertész & Stein, 1903: 161; Tonnoir, 1919: 12; Feuerborn, 1922: 83.
Telmatoscopus consors auct. (nec Eaton, 1893), partim; Barendrecht, 1934: 80; Freeman, 1950: 90; Jung, 1956: 198; Nielsen, 1961: 138; Tanasijčuk, 1969: 130.
Telmatoscopus (*Panimerus*) *consors* auct. (nec Eaton, 1893), partim; Kloet & Hincks, 1945: 333.
Pericoma deminuens Feuerborn, 1922: 38, 78; 1923: 198.
Pericoma (*Telmatoscopus*) *deminuens*; Tonnoir, 1934: 75.
Pericoma longicornis; Tonnoir, 1919: 12.
Telmatoscopus (*Telmatoscopus*) *longicornis*; Vaillant, 1960: 106.
Jungiella longicornis; Krek, 1971: 174; Vaillant, 1971: 44; 1972: 84.
Jungiella (*Parajungiella*) *longicornis*; Vaillant, 1972: 85.
Jungiella consors auct. (nec Eaton, 1893), partim; Vaillant, 1972: 86.
Parajungiella longicornis; Ježek, 1983a: in press.

Diagnosis. The species of medium size, with the characteristic conspicuously developed protuberance on 5th antennal segment, the wing-length 2.0—2.5 mm., the wing veins inconspicuously swollen at margin, Cu swollen distally, however narrowed at margin. The male copulatory organ with a pair of pointed extremities (protuberances) of the same length. The species superficially similar to *Panimerus fraudulentus* (Eat.) based on the shape of the male genitalia however the length of the first antennal segment suggests that it belongs in *Parajungiella*.

Male. The distance between eyes almost three times larger than the diameter of one facet. Index of the distance of the tangent points of the eye's ends to the minimal width of frons 2.4, to the facet diameter 6.5. Frons with a broad group of irregularly arranged hairs. Antennae 16 segmented, haired. Scapus almost cylindrical, widened distally, pedicellus almost globular, index of the length of the first antennal segment to the length of pedicellus 3.8; ratio of the maximal width of pedicellus to the width of the first and second flagellar segment 2.2:2.0:1.8; index of the length of the first flagellar segment to the second one 1.3; the first and second flagellar segment asymmetrical. The flagellar segments bottle-shaped, third flagellar segment with a characteristically developed protuberance, the last flagellar segment with a finger-like end which has a characteristically formed protuberance. The paired sensory filaments of antennae conspicuously developed, finger-like. Ratios of the lengths of the segments of maxillary palpus 4.5:6.0:6.4:8.7. The last segment of the maxillary palpus annulated and connected with the top of the foregoing one basally. Ratio of the maximal length of cibarium to the length of epipharynx approximately 2:1. Corniculi small, semiglobular. Index of its length to the maximum and minimum width at base 0.5. The wings without pigmentation, lancet-shaped, the wings veins a little swollen at margin, Cu with a conspicuous isolated swollen part distally, the membrane bare. The basal costal nodes distinct. Sc rather long, uninterrupted, a little bent distally. R_1 arched to Sc, the basal field not bordered by the cross-veins, R_{2+3} originating from the end of this field, both R_2 and R_3 almost straight, the angle of the proximal part of R_2 and R_{2+3} as well as R_3 and R_{2+3} rather small. R_4 and R_5 almost straight, R_5 reaching wing margin posterior to apex. M_{1+2} very widened at base, almost straight, as well as M_1 and M_2 , the angle of the proximal part of M_1 and M_{1+2} as well as M_2 and M_{1+2} rather small. M_3 straight, M_3 and Cu without a connection



Figs. 27—35. *Parajungiella longicornis* (Ton.), ♂♀: 27 — head, 28 — facets, 29 — maxilla and palpus maxillaris, 30 — wing, 31 — hypopygium laterally, 32 — copulatory organ laterally, 33 — genital chamber anteriorly [female], 34 — the same laterally, 35 — the same ventrad. Scale 0.1 mm., in fig. 30 1 mm.



Figs. 36—44. *Parajungiella longicornis* (Ton.), ♂♀: 36 — basal antennal segments, 37 — apical antennal segments, 38 — terminal lobe of labium, 39 — thorax laterally, 40 — claw of P₁, 41 — copulatory organ, coxopodites and harpagones dorsally, 42 — epandrium and cerci dorsally, 43 — subgenital plate (female), 44 — cercus laterally (female). Scale 0.1 mm.

on the straight M_4 . The condition of veins r-r, r-m and m-m not determined. The medial wing-angle 160° . Indexes of the wing: AB:AC:AD=12.8:13.1:13.3, BC:CD:BD=3.1:4.3:7.2. Index of the base of M_{1+2} , A to the maximal width of the wing 2.1. The length of halteres to its width 2.6:1. Ratios of the lengths of femora, tibiae and the first tarsal segments: $P_1=17.0:19.6:9.0$; $P_2=16.7:23.0:10.3$; $P_3=17.5:27.0:10.0$. The paired tarsal claws rather arched. The basal apodeme of the male genitalia straight, on the end without bifurcation, compressed laterally. The male copulatory organ of the characteristic shape, outside smooth, with a pair of pointed prominences of the same length. Coxopodites outside without a protuberance, harpagones pointed, a little longer than coxopodites from dorsal view. The aperture of epandrium approximately oval-shaped, antero-posteriorly rather narrowed. Index of the length of cercus to the length of epandrium from lateral view 1.5. Hypandrium with two small wide lobes. Epiproct short, distinctly haired, its width at base approximately twice larger than the length. Hypoproct triangular, rounded, its width at base approximately of the same size as its length. Cerci inconspicuously S-shaped from ventral view, with 24 retinaculi subapically. The top of the cercus without a bifurcation.

Female. The subgenital plate of the characteristic shape with a widened base and with two rounded lobes originating from narrowed caudal part. The netted structures of complicated sclerotized forms in the area of the genital chamber not developed. The cercus a little bent. Index of its length to the maximal width 6.7.

Material: 170 ♂♂ and 1 ♀. Bohemia: Blatná (Strakonice distr.), Družec, Haklový Dvory, Chodová Planá, Konopiště (Benešov distr.), Kostomlaty nad Labem, Milevsko, Nymburk, Onšov (Pelhřimov distr.), Pěčice (Mladá Boleslav distr.), Praha-Krč, Praha-Kunratice, Račice (Litoměřice distr.), Rožďalovice (Kn.), Trhový Štěpánov. Moravia: Dětmárovice, Dolní Bojanovice, Dolní Marklovice. Hodonín — district town, Horní Libochová, Nová Ves (Břeclav distr.), Nové Sady (Olomouc distr.) (M.), Ostrava, Ostrava-Poruba, Otrokovice, Polanka nad Odrou, Rožnov pod Radhoštěm, Spytihněv, Stonava, Strážov-Přímělkov, Záhlinice.

Comments: Kn.-Kneifl lgt., M.-Martinovský. Figured specimen of the male was collected by the author on the locality Rožnov pod Radhoštěm, 16. 6. 1975, female from the locality Polanka nad Odrou, 12. 6. 1975.

Occurrence in ČSSR: IV—VIII.

Bionomy: The larva was figured under the name *Pericoma deminuens* Feuerborn, 1922 by FEUERBORN (1923) and Feuerborn's figure correctly identified by VAILLANT (1972), who also described the pupa. A key-diagnosis of larvae indicating that larva of *P. longicornis* is not distinguishable from "*Telmatoscopus (Telmatoscopus) soleatus* (Walker, 1856)" was published by VAILLANT (1960) and later GILJAROV (1964). According to JUNG (1956) the larvae live near weirs, mill races, waterfalls, springs and streams on the stones covered by moist moss. The larvae are common in broken alders or rotted leaves. According to VAILLANT (1971) the larvae can live in the upper sand or dry mud of swamps. Vaillant collected larvae 750—950 m above sea level during the end of March or at the beginning of April in France, adults were present one month later. The life cycle requires one year. Sexual dimorphism (the coloration of the head and thorax, the presence of spines or combs on

the basal antennal segments) was studied by DUCKHOUSE (1962). The adults were collected by the present author on the banks of forest streams, drainages, on the periphery of spring areas or moist pasturelands, near tributaries of rivers, ponds and overflows, putrefying swamps, moist rubbish-heaps, gutters shaded by *Alnus*, *Salix*, *Sambucus*, *Populus*, *Picea*, *Quercus*, *Robinia*, *Carpinus* and *Tilia*, and having in the undergrowth *Urtica*, *Mnium*, *Scirpus*, *Carex*, *Lysimachia*, *Calamagrostis*, *Phragmites*, *Rubus*, *Cirsium*, *Lythrum*, *Typha* and *Eupatorium*.

Distribution: Belgium, Czechoslovakia, Denmark, England, France, Hungary, Ireland, Netherlands, Poland, Sweden, West Germany and Yugoslavia.

Type-material and type-locality data: A holotype was not designated in the original paper and the number of specimens studied is unknown. Tonnoir mentioned, that the female is unknown. The type-locality was also not given. Occurrence characterized as follows: "Rare. Juin, juillet." On the base of the loaned syntypic material from the Brussel's museum I am establishing as lectotype the specimen labelled "Type", Wesembeek, 7 Juin 1918, Tonnoir lgt. The specimen was dissected into the following parts: thorax with abdomen remains together, both wings and genitalia divided in two parts. The head missing, left P_2 complete, other legs missing. As paralectotype was designated Jung's unpublished male lectotype labelled La Hulpe, 18. V. 1919, Tonnoir lgt.; the prepared slide from the dry pinned specimen has one wing, the thorax with abdomen, and all legs present — only left P_1 missing. This slide has the same number as the damaged slide B 017 with one wing, head (without antennae, only left maxillary palpus complete) and male genitalia with a part of abdomen. Moreover 6 specimens were studied, which were not acceptable for the paralectotype-designation because of the later date of Tonnoir's collecting in contrast to the original description: 2 ♂♂, 2 ♀♀, Neerpede-Aa, 28. V. 1920, Tonnoir lgt., 1 ♂ Mockai, VI—1920, Tonnoir lgt., 1 ♀ Rouge Cloitre, 22. V. 1920, Tonnoir lgt. All mentioned specimens were determined by Tonnoir as *Pericoma longicornis* Tonnoir, 1919 and labelled R. M. H. N. Belg., 10638.

Discussion: Both sexes were figured by JUNG (1956), who established on the basis of material from West Germany a male "hypotypoid" labelled Vach, 6. 12. 1951, Nr. 93 and female "hypotypoid" labelled Vach, 20. 12. 1951, Nr. 94. The significance of the term "hypotypoid" is not known. Much is known about this species in the entomological literature and this name was used in different generic combinations. VAILLANT (1972) labelled a figure of a male from Eaton's collection *Pericoma consors* Eaton, 1893 (with number 93b labelled Muskros, Killarney, Ireland), however it appears to be a slightly damaged specimen of *Parajungiella longicornis* (Tonnoir, 1919). If in the future it is demonstrated, that Vaillant's figured specimen differs from *P. longicornis* (Tonnoir, 1919), the former species will be recognized as new, because of the lectotype— and paralectotype— designation of *Pericoma consors* Eaton, 1893 which is the same as *Telmatoscopus internus* Nielsen, 1964.

SUMMARY

Differential diagnoses of the genera *Psycmera* Jež. and *Parajungiella* Vail. are presented and 4 new combinations of Indo-malayan and Holarctic material are given. A diagnosis and redescription of *Psycmera integella* (Jung) — ♂, *Parajungiella consors* (Eat.) — ♂ and *P. longicornis* (Ton.) — ♂, ♀ is included. Lectotypes as well as paralectotypes are designated for the two last mentioned species. *Telmatoscopus (T.) internus* Niel. is a new synonymum of *Parajungiella consors* (Eat.). *Psycmera integella* (Jung) and *Parajungiella consors* (Eat.) are new to Czechoslovakia. Full synonymies, bionomy and distribution of all taxons are included; moreover all important diagnostic characters are figured.

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JAN JEŽEK

**TAXONOMICKÁ STUDIE RODŮ PSYCMERA JEŽ. A PARAJUNGIELLA VAIL.
(DIPTERA, PSYCHODIDAE) Z ČSSR**

V předložené práci jsou zpracovány 3 druhy dvou rodů tribu *Paramormiini* End. z území Čech a Moravy. Kromě diferenciálních diagnóz obou rodů jsou uvedeny 4 nové kombinace rodového a druhového jména z orientální a holarktické oblasti. Jsou re-deskribovány a prokresleny *Psycmera integella* (Jung) — ♂, *Parajungiella consors* (Eat.) — ♂ a *P. longicornis* (Ton.) — ♂ s uvedením diagnóz. Na základě studia zapůjčené Eatonovy sbírky čeledi Psychodidae z Britského muzea v Londýně bylo možné označit v syntypové sérii *P. consors* (Eat.) lektotypus a paralektotypy, a synonymizovat jméno *Telmatoscopus (T.) internus* Niel. se jménem *Parajungiella consors* (Eat.). Lektotypus a paralektotypy byly stanoveny také v syntypové sérii *P. longicornis* (Ton.), zapůjčené z ústavu Institut Royal des Sciences Naturelles de Belgique. U jednotlivých druhů je uvedena dosud známá bionomie, rozšířená a úplná synonymie včetně všech známých literárních pramenů. *Psycmera integella* (Jung) a *Parajungiella consors* (Eat.) jsou novými druhy pro faunu ČSSR. Nasbíraný materiál je deponován ve sbírkách Národního muzea v Praze.