

**RESULTS OF THE CZECHOSLOVAK-IRANIAN ENTOMOLOGICAL
EXPEDITIONS TO IRAN, 1973, 1977****Diptera: Psychodidae**

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Abstract. Five new species and three new subspecies of moth flies found mostly in Iran and also in Turkey are described: *Jungiella* (*Jungiella*) *hoberlandti*, *Berdeniella hashemii*, *Pericoma dlabolai*, *P. taurica* (Anatolia) and *Tinearia esfahanica* spp. n.; *Bazarella* (*Parabazarella*) *joosti lalehzarica*, *Satchelliella gracilis kandavanica* and *Saraiella resslti montana* subspp. n. Type material is based on males, only *T. esfahanica* sp. n. on female. *Atrichobrunettia tenuipennis* Wag. et Vaill., redescribed here, is new to the fauna of Turkey. Differential diagnoses of all described or redescribed taxons are given and all important diagnostic characters are figured. Lectotype-designation of European *Satchelliella gracilis gracilis* (Eat.) is added.

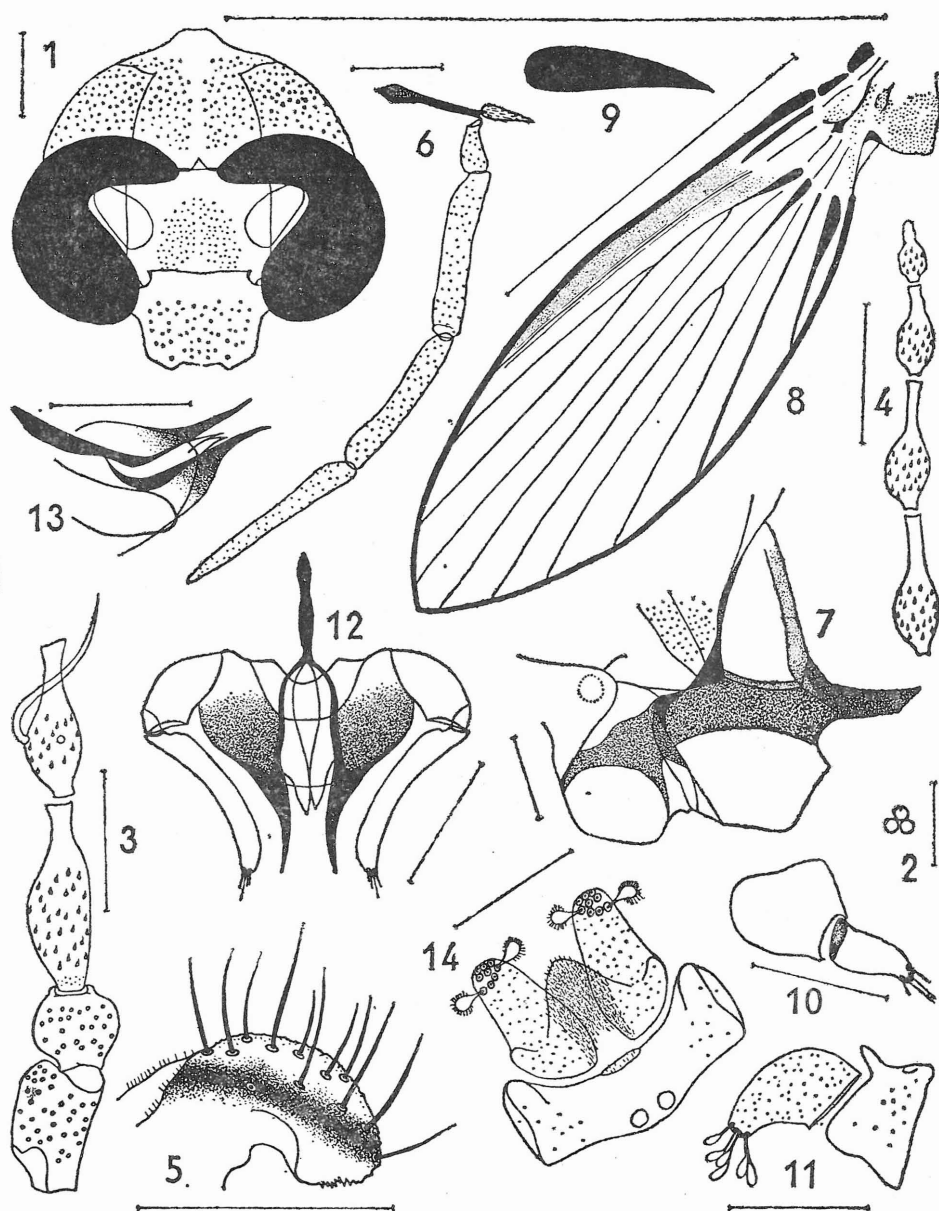
Very little data has been published on non-biting moth flies of Iran so far. The first papers were published by Wagner (1981) and Vaillant et Joost (1983). Enjoying the opportunity to visit almost all main biotopes (see Ježek, 1984; 1987 a, b; 1989 a, b) on the basis of the joint research programme of the Plant Pests and Diseases Research Institute, Tehran and the National Museum (Natural History), Praha, a numerous material of moth flies has been accumulated during the second Czechoslovak-Iranian expedition to Iran (1973 — 6 months) and the third expedition (1977 — 5 months). The purpose of this paper is to present descriptions of mainly Iranian as well as Anatolian new species, subspecies and one redescription of a new specific taxon to the fauna of Turkey. Interesting quoted species belong to the genera *Atrichobrunettia* Satchell, 1953; *Jungiella* Vaillant, 1972; *Tinearia* Schellenberg, 1803; *Bazarella* Vaillant, 1961; *Satchelliella* Vaillant, 1979; *Berdeniella* Vaillant, 1976; *Pericoma* Walker, 1856 and *Saraiella* Vaillant, 1981. All material is deposited in the Department of Entomology of the National Museum (Nat. Hist.), Praha. There is still some additional unidentified material including some as yet unsolved taxonomic problems.

***Atrichobrunettia tenuipennis* Wagner et Vaillant**
(Figs. 1—14)

Atrichobrunettia tenuipennis Wagner et Vaillant, 1983: 158; Wagner, 1984: 31.

Differential diagnosis. Related to Papuan *A. lyrata* Quate et Quate, 1967 which has medial angle of wing almost 180° , R_5 ends at apex of wing, subapical antennal segment without a neck, harpagones very thin, S-shaped, cerci with only three retinaculi in contrast to the below re-described species which has medial angle of wing approximately 158° , R_5 ends below apex of wing, subapical antennal segment with a neck, harpagones rather thick, a little bent, cerci with 9 retinaculi subapically.

Male. Eyes separated, minimum width of frons 2.5 times larger than facet diameter, frontal suture bears a small triangle in the middle. Index of distance of tangential points of eye's ends to minimum width of frons 3.7, to facet diameter 9.3. Antennae 15-segmented. Scape almost cylindrical, its length approximately 1.6 times greater than width at base; pedicel almost globular, symmetrical. Index of length of scape to pedicel 1.6. Flagellar segments pitcher-shaped, some a little asymmetrical. Ratio of maximum width of first and second flagellar segments 1.7:1.5, ratio of length of first and second flagellar segments 5.1:4.3. Last segments of antennae are slightly and gradually reduced, apical segment with a rather long digital protuberance. Sensory filaments of antennal segments 3—15 paired, simple, long. Ratios of lengths of segments of maxillary palpus 1.5:4.6:4.5:5.5. Last segment of maxillary palpus not annulate, connected basally with apical end of the foregoing segment. Ratio of maximum length of cibarium to length of epipharynx 2.3:1. Wings very narrow, lancet-shaped, 2.1 mm. long, clear, clouded only between R_1 and C as well as in a small area between R_{2+3+4} and base of R_1 . Sc, base of R_{2+3+4} as well as M_{1+2} , M_4 and above all Cu strengthened. Angle of base of R_2 and R_3 acute, the angle of distal part of R_{2+3} and base of R_3 larger than the same of R_{2+3} and R_2 . Angle of base of M_1 and M_2 acute as well, the angle of distal part of M_{1+2} and base of M_2 a little larger than the same of M_{1+2} and M_1 . M_3 and Cu without a connection on M_4 . Wing membrane bare. Medial angle of wing approximately 158° . Indexes of wing AB:AC:AD=11.0:11.5:11.8 and BC:CD:BD=1.9:2.5:4.3. Index of base of M_{1+2} , A to maximum width of wing 2.4. Ratio of length of haltere to its width 2.3:1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1=11.9:13.6:7.5$; $P_2=14.8:18.4:8.8$; $P_3=13.5:22.2:8.6$. Paired tarsal claws of P_1 straight. Corniculi, patagia and tegulae not developed. Basal apodeme of male genitalia straight, laterally depressed. A pair of large long pointed and very sclerotized protuberances, a little divergent caudally, are situated among sternal band and coxopodites. Male copulatory organ asymmetrical in fresh material, composed of two scalpel like planes very much shorter than the mentioned paired protuberances. Coxopodites very short, broad at base, harpagones very long, more than 1.5 times longer than coxopodites from dorsal view. Harpagones with 4 setae subapically. Epandrium very short as figured, with two apertures proximally, the sclerotized remainders of 10th tergum and sternum inside of epandrium



Figs. 1—14: *Atrichobrunettia tenuipennis* Wag. et Vaill. ♂. 1: head; 2: facets; 3: basal antennal segments; 4: apical antennal segments; 5: terminal lobe of labium; 6: maxilla and palpus maxillaris; 7: thoracic sclerites laterally; 8: wing; 9: claw of P₁; 10: coxopodite and harpagon laterally; 11: epandrium and cercus laterally; 12: copulatory organ, coxopodites and harpagones dorsally; 13: copulatory organ laterally; 14: epandrium and cerci dorsally. Scales 0.1 mm., in Fig. 8 — 1 mm.

missing. Epiproct very small, with ratio of its length to width 1:4. Hypoproct large, tongue-shaped, almost triangular, with rounded top. Both epiproct and hypoproct haired as figured. Cerci short, arched from lateral view, widened at base by a lobus, conical, apically with 9 ladle-shaped retinaculi, haired on margins of its enlarged ends.

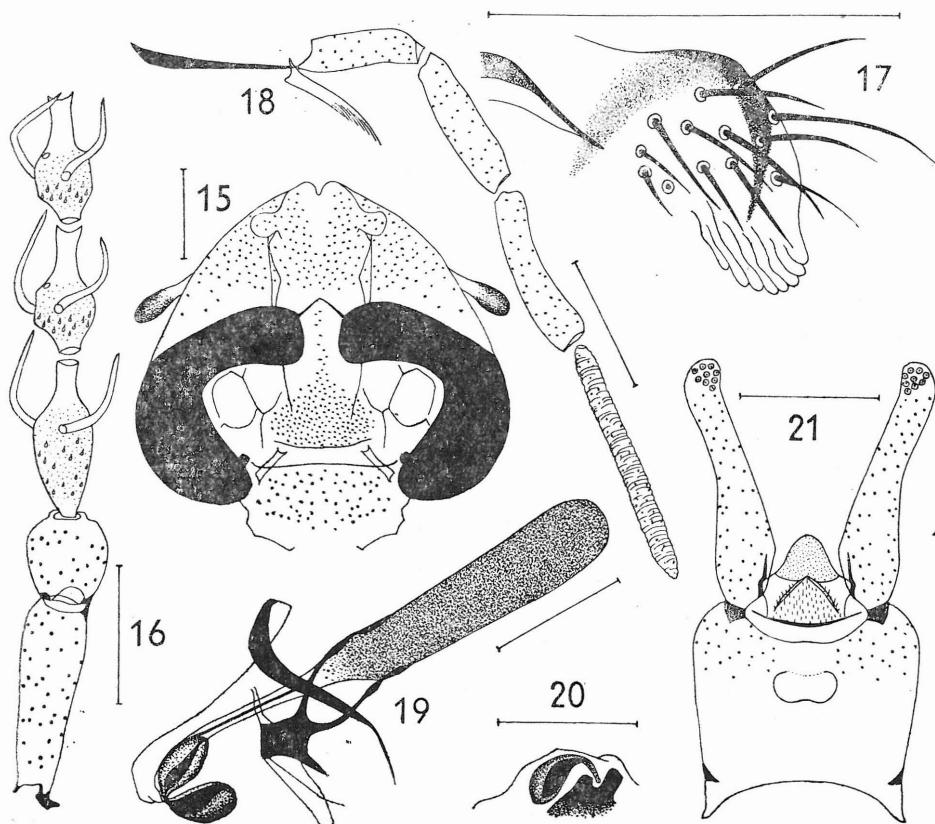
Material: ♂: Turkey, Elazig, river Murat, 30. VII. 1977, Cat. No. 33377, Inv. No. 2253, J. Ježek leg.

Distribution: Cyprus, Greece, Crete. New to the fauna of Turkey.

***Jungiella* (*Jungiella*) *hoberlandti* sp. n.**

(Figs. 15—29)

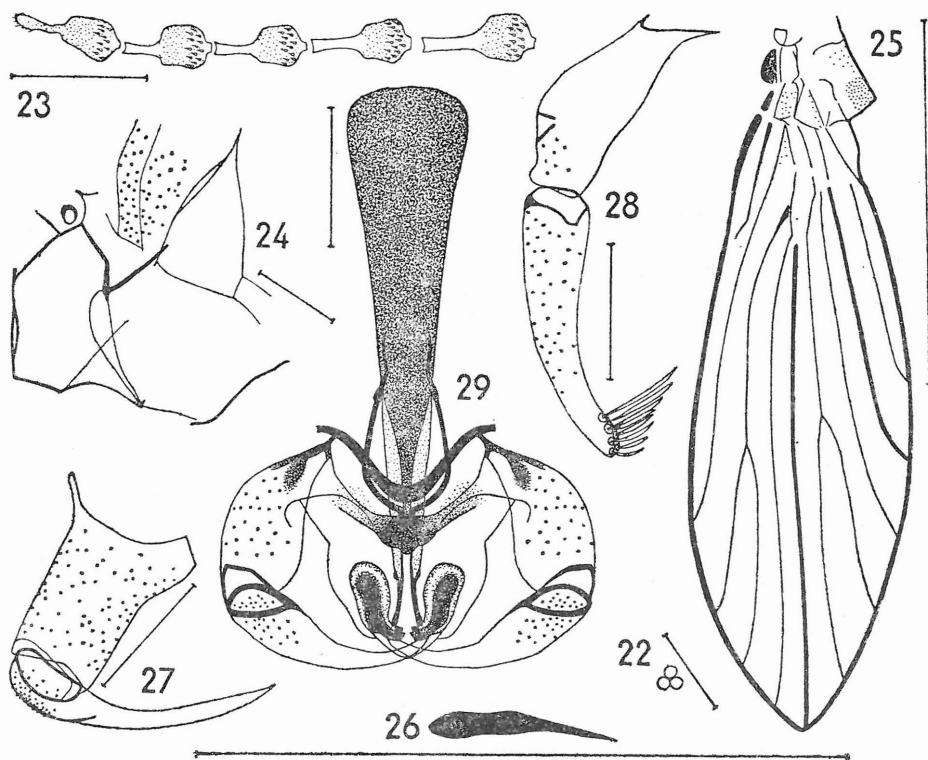
Differential diagnosis. Closely related to *J. (J.) soleata* (Walker, 1856) which has large aperture in distal part of basal apodeme of male genitalia, furca is largely open proximally, additional free backward bent



Figs. 15—21: *Jungiella* (*J.*) *hoberlandti* sp. n. ♂. 15: head; 16: basal antennal segments; 17: terminal lobe of labium; 18: maxilla and palpus maxillaris; 19: copulatory organ dorso-laterally; 20: the same joint in detail; 21: epandrium and cerci dorsally. Scales 0.1 mm.

appendages are lancet-shaped in contrast to the below described species which has distal part of basal apodeme without an aperture, furca is narrowly open proximally, additional free, backward bent, appendage are skimmer-shaped.

Male. Minimum distance between eyes equal to more than 2 facet diameter. Frons with almost right angle suture. Ratio of distance of tangential points of eye's ends to facet diameter 11:1. Corniculi developed, short. Antennae 16-segmented. Scape approximately cylindrical, its length almost 6.5 times greater than width at base; pedicel almost globular, its length a little greater than width. Index of length of scape to pedicel 2.3. Ratio of maximum width of first and second flagellar segments 1:1. Flagellar segments pitcher-shaped, index of length of first flagellar segment to second one 1.2. Flagellar segments a little asymmetrical, apical segments not reduced, last segment with a long pestle-shaped protuberance. Sensory filaments simple, long, paired. Ratios of lengths of segments of maxillary palps 3.5:4.1:4.6:6.8. Last segment of maxillary palpus annulate, connected basally with apex of foregoing segment. Ratio of maximum length of cibarium to length of epipharynx 1.8:1. Wings lancet-shaped, 1.9–2.1 mm. long, rather narrow, clear. There are some strengthened veins in area of wing: R_5 and M_4 . Origin of R_{2+3} a little strengthened as well. Angle of base of R_2 and R_3 acute, the angle of distal part of R_{2+3} and base of R_2 a little larger than the same of R_{2+3} and R_3 . Angle of base of M_1 and M_2 acute as well, the angle of distal part of M_{1+2} and base of M_1 larger than the same of M_{1+2} and M_2 . M_3 and Cu without a connection on M_4 . Wing membrane bare. Medial angle of wing 180° . Indexes of wing $AB:AC:AD = 7.8:8.5:9.8$; $BC:CD:BD = 2.3:2.6:4.9$. Index of base of M_{1+2} , A to maximum width of wing 2.5. Ratio of length of haltere to its width 2.3:1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1 = 13.0:16.0:7.1$; $P_2 = 14.4:20.1:8.1$; $P_3 = 13.2:22.0:8.7$. Paired tarsal claws of P_1 rather straight, conspicuously narrow, with long pointed tip. Patagia and tegulae not developed. Basal apodeme of male genitalia long, conspicuously widened proximally from dorsal view. Furca conspicuously developed as figured. Two caudal sclerotized stripes narrow, divergent, with additional free appendages articularly jointed at base to them, conspicuous, skimmer-shaped, bent backwards. Coxopodites without protuberances laterally, harpagones a little longer than coxopodites from dorsal as well as lateral view. Epandrium as figured, basal paired apertures completely fused without antero-posterior interruption, sclerotized remainders of 10th tergum and sternum inside of epandrium missing, hypandrium narrow. Epiproct a little larger than hypoproct, hypoproct rounded on the top in contrast to epiproct which has a lancet top. Epiproct covered by many short hairs, hypoproct with minute hairs. Cercus 1.2 times longer than epandrium from dorsal view, 1.3 times longer from lateral view. Cerci inconspicuously S-shaped from dorsal view, C-shaped from lateral view, subapically with 9 retinaculi. The top of cercus without a bifurcation.



Figs. 22—29: *Jungtella (J.) hoberlandti* sp. n. ♂. 22: facets; 23: apical antennal segments; 24: thoracic sclerites laterally; 25: wing; 26: claw of P₁; 27: coxopodite and harpagon laterally; 28: epandrium and cercus laterally; 29: copulatory organ, coxopodites and harpagones dorsally. Scales 0.1 mm., in Fig. 25 — 1 mm.

Material: Holotype ♂: W. Iran, Lorestan, 10 km. W. of Babazaïd between Malavi and Pol-e Dohtar (33 16 N, 47 42 E), 880 m., 9.—10. 4. 1977, Loc. No. 283, Cat. No. 33388, Inv. No. 2254; paratypes, 9 ♂♂, the same, Cat. No. 33389, 33435 — 33442, Inv. No. 2255 — 2263. All specimens J. Ježek leg.

Type-locality data: Valley with grassy slopes, sparse forest of *Quercus brantii*. Bottom of the valley rather cultivated, upper region with water sources with *Phragmites*, *Carex*, *Juncus*, *Populus* and *Salix* (see Hoberlandt, 1983).

Derivatio nominis: This new species is dedicated to Dr. L. Hoberlandt, CSC., head of three expeditions of the National Museum in Prague to Iran in 1970, 1973 and 1977, as well as head of the Department of Entomology of that museum for a long time.

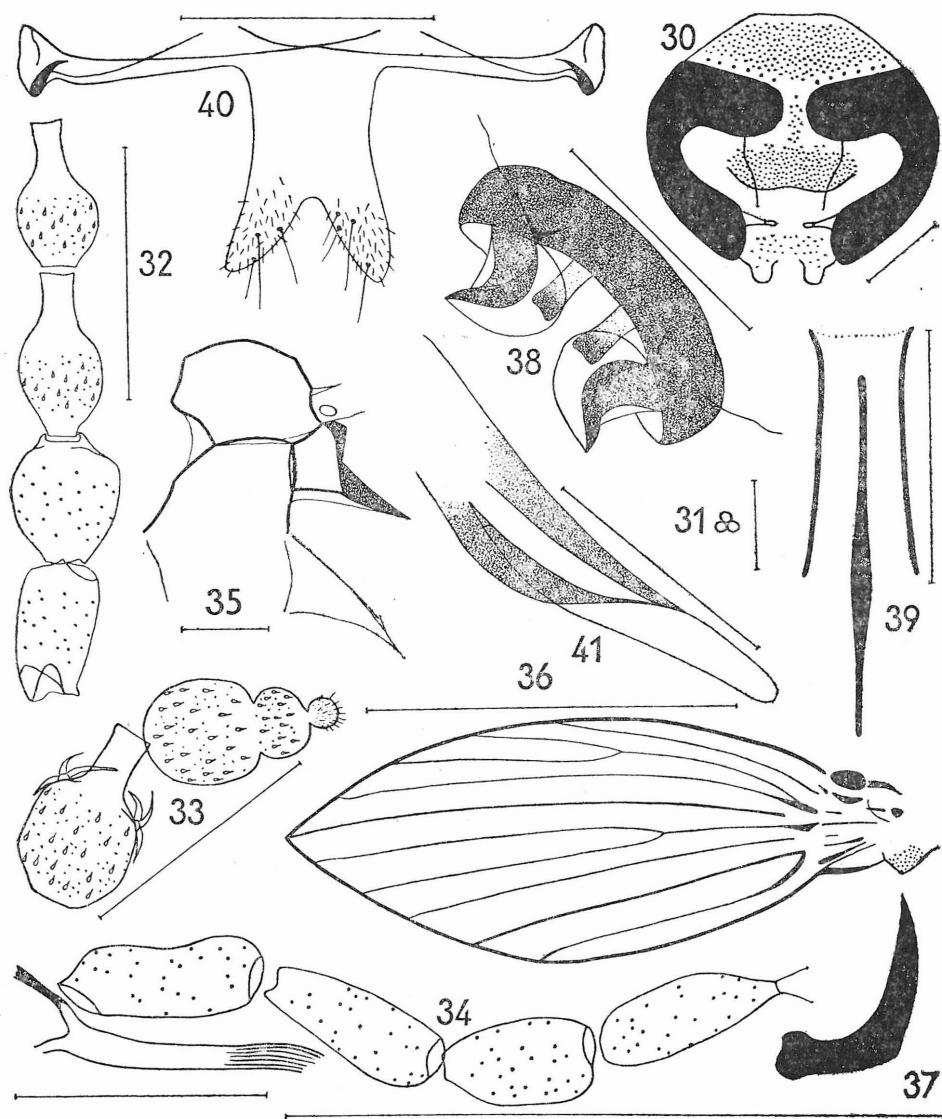
Comments: Figures are based on holotype.

***Tinearia esfahanica* sp. n.**

(Figs. 30—41)

Differential diagnosis. Closely related to the North American species *T. alternicula* (Quate, 1955) which has width of stem of female subgenital plate a little larger than width of one of two conspicuously diverging caudal lobes which are projected in an acute angle to basal narrow transverse part of a large span. The last segment of maxillary palpus longer than the second one. The mentioned new species has width of stem of subgenital plate more than twice as large as width of one of two inconspicuously diverging caudal lobes, almost upright projected to basal very narrow large-span transverse basal part. The last segment of maxillary palpus shorter than the second one.

Female. Eye bridge on its narrowest part equals two diameters of one facet. Frons haired. Antennae with 15 segments, haired. Scapus shortly cylindrical, index of length of scapus to pedicel 1.1, pedicellus nearly ball-shaped, flagellar segments 1—10 flask-shaped, symmetrical, ratio of maximum width of first and second flagellar segments 2.3:2.2; ratio of length of first and second flagellar segments 4.4:4.0, three apical antennal segments fused, reduced upwardly in comparison with foregoing one. Sensory filaments rather small, with three branches. Terminal lobe of labium with digital projections. Ratios of lengths of segments of maxillary palpus 5.6:5.2:4.2:5.0, maxilla longer than the first segment of that. Last segment of maxillary palpus not annulate, connected basally with apical end of the foregoing segment. Digital projections of terminal lobe of labium presented. Ratio of maximum length of cibarium to length of epipharynx 1.4:1.0. Wings largely lancet-shaped, 1.9 mm. long, without dark brown tufts of hairs at the tips of veins, basal costal nodus distinct as well as distal one. Subcosta long, interrupted, basal part strengthened. R_1 arched to C as well as R_{2+3} ; the start of R_{2+3} in the half of basal field. R_2 arched to C, R_3 S-shaped, R_4 and R_5 bent to fore margin of wing. Angle of base of R_2 and R_3 acute, the angle of distal part of R_{2+3} and R_2 larger than angle of R_{2+3} and R_3 . M_{1+2} almost straight, M_1 arched to R_5 , M_2 inconspicuously S-shaped. M_3 bent to medial fork, M_4 inconspicuously S-shaped, Cu conspicuously S-shaped. Angle of base of M_1 and M_2 acute, the angle of distal part of M_{1+2} and M_1 larger than angle of M_{1+2} and M_2 . M_3 without-, however Cu with a connection on M_4 . Strengthened veins: base of R_4 and M_{1+2} , R_5 , M_4 and base of Cu. Wing membrane bare. Index of base of M_{1+2} , A to maximum width of wing 2.2. Veins r-r, r-m and m-m missing. Medial wing-angle 109° . Indexes of wing $AB:AC:AD = 9.4:10.3:7.6$ and $BC:CD:BD = 2.4:4.8:6.1$. Ratio of length of haltere to its width 2.5:1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1 = 9.5:9.0:3.5$; $P_2 = 11.0:12.0:4.0$; $P_3 = 11.8:14.0:4.0$. Paired tarsal claws of P_1 bent almost in the right angle, bare. Length of caudal part of subgenital plate larger than its width basally, upright projected to basal very narrow transverse part of a large span. Two caudal lobes prominent, rounded, a little diverging, with a deep median incision, pubescent and setose. Inner road missing. Cerci and genital chamber as figured.



Figs. 30—41: *Tinearia esfahanica* sp. n. ♀. 30: head; 31: facets; 32: basal antennal segments; 33: apical antennal segments; 34: maxilla and palpus maxillaris; 35: thoracal sclerites laterally; 36: wing; 37: claw of P_1 ; 38: structures of genital chamber anteriorly; 39: a part of the same ventrally; 40: subgenital plate; 41: cercus laterally. Scales 0.1 mm., in Fig. 36 — 1 mm.

Material: Holotype ♀: C. Iran, Esfahan province, Esfahan (32 40 N, 51 38 E), 1620 m., 22.—24. VI. 1973, Loc. No. 256, Cat. No. 33443, Inv. No. 351, J. Ježek leg.

Type-locality data: Garden of Plant Pests and Diseases Research Institute with *Cupressus*-trees and alfalfa (see Hoberlandt, 1981).

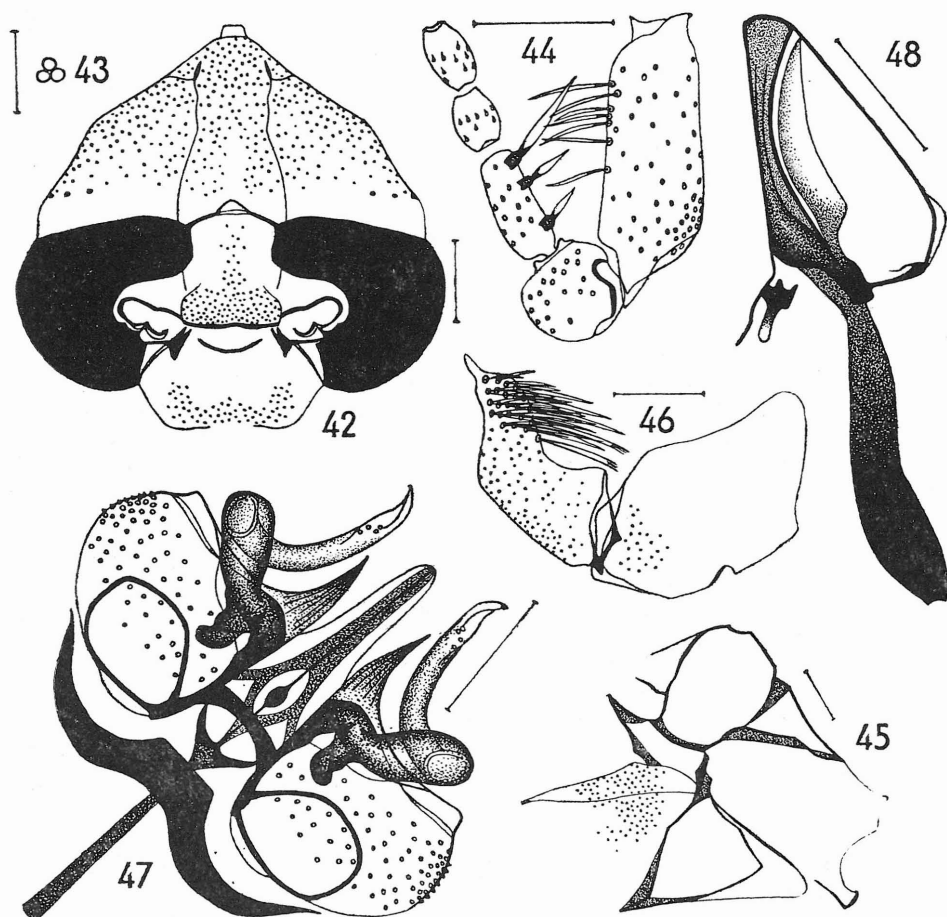
Derivatio nominis: The name is derived from Esfahan — a town in Central Iran.

Bazarella (Parabazarella) joosti lalehzarica subsp. n.

(Figs. 42—55)

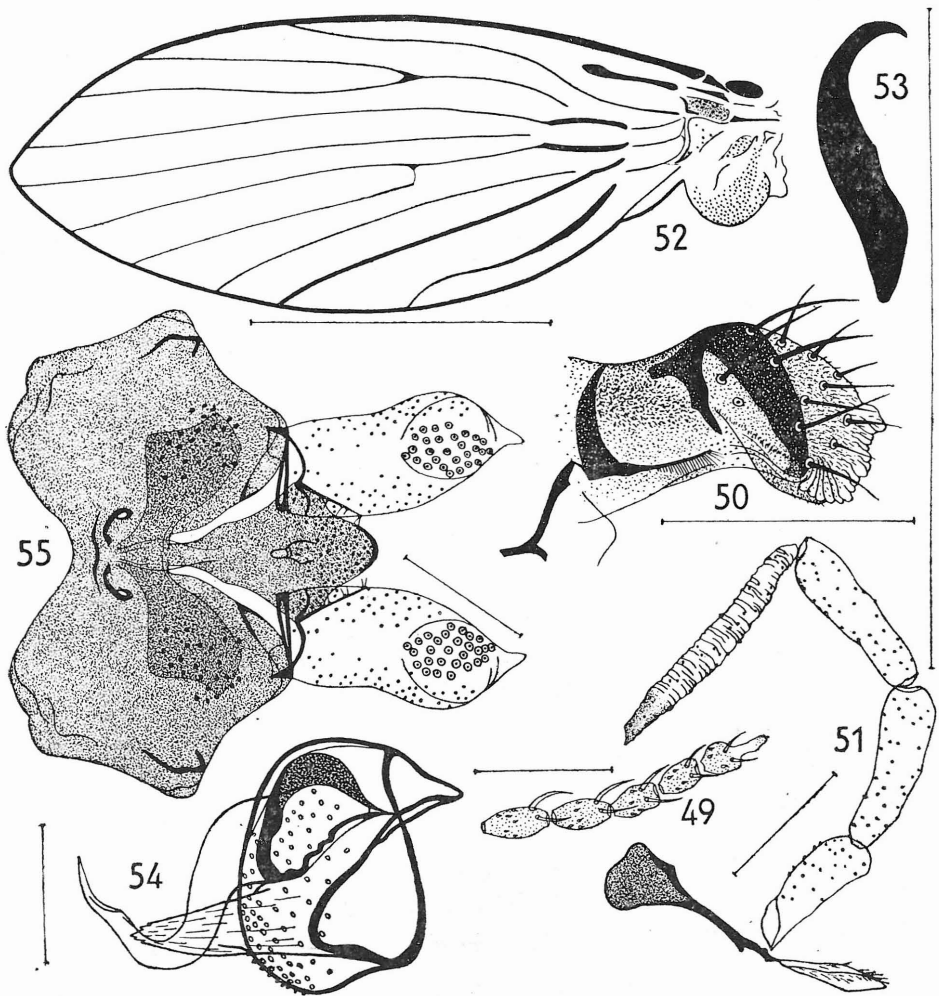
Differential diagnosis. Closely related to *B. (P.) joosti* Vaillant, 1983, which has 5 bristles arranged in two groups on antennal segment 3, harpagon with a widened part near its end, paraproctal lobes developed as two very narrow lobulae. The mentioned new subspecies has only 3 bristles on antennal segment 3, harpagon with very thin and pointed part near its end, paraproctal lobes in shape of two broad lobulae.

Male. Frons very broad, minimum distance of eyes equals to 5.3 diameters of one facet. Frontal suture conspicuously arched and bears moreover a short additional inconspicuous curved suture medially. Ratio of distance of tangential points of eye's ends to facet diameter 8.3:1. Antennae 16-segmented. Scape cylindrical, its length almost three times larger than its maximum width distad. Pedicel almost globular, a little asymmetrical. Index of length of scape to pedicel 2.9. Ratio of maximum width of first and second flagellar segments 1.3:1.2. First flagellar segment conspicuously long, cylindrical, with three conspicuous bristles of different length. Third antennal segment almost twice as long as fourth antennal segment. Last antennal segments cask- or vase-shaped, without necks, terminal segment with long digital protuberance apically. Sensory filaments of flagellar segments well developed, simple, paired, needle-shaped. Ratios of lengths of segments of maxillary palps 3.8:4.6:4.9:7.1. Last segment of maxillary palpus partially annulate, connected basally with top of the preceding segment. Ratio of maximum length of cibarium to length of epipharynx 2.3:1. Wings 2.4—2.7 mm. long, lancet-shaped and clear. Strengthened veins or its parts of wing: Sc, radial fork, basal field, medial fork, M_4 and base of Cu. Angle of base of R_2 and R_3 acute, the angle of distal part of R_{2+3} and base of R_2 as well as of R_3 the same. Angle of base of M_1 and M_2 acute. The angle of distal part of M_{1+2} and base of M_1 larger than angle of M_{1+2} and M_2 (resp. transverse thin connection). Cu ends in hind margin of wing. M_3 and Cu without a connection on M_4 . Wing membrane bare. Medial angle of wing 173° . Indexes of wing $AB:AC:AD=11.0:10.7:11.0$ and $BC:CD:BD=2.4:3.9:6.3$. Index of base of M_{1+2} , A to maximum width of wing 2.0. Ratio of length of haltere to its width 2.8:1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1=17.0:18.6:8.8$; $P_2=18.4:22.0:9.7$; $P_3=20.5:25.4:10.0$. Paired tarsal claws of P_1 arched as figured. Corniculi, patagia and tegulae not developed. Basal apodeme of male genitalia S-shaped from lateral view, inconspicuously widened proximally from dorsal view, male copulatory



Figs. 42—48: *Bazzarella* (*P.*) *joosti lalehzarica* subsp. n. ♂. 42: head; 43: facets; 44: basal antennal segments; 45: thoracic sclerites laterally; 46: epandrium and cercus laterally; 47: copulatory organ, coxopodites and harpagones dorsally; 48: copulatory organ laterally. Scales 0.1 mm.

organ as figured. Coxopodites very short, conspicuously swollen, with one characteristic protuberance of broad base, short, sword-shaped from lateral view, with several small teeth apically; harpagones S-shaped from lateral view, with very thin bent pointed apex. Epandrium bilobed, basal flaps very extended laterally, with a pair of small apertures basally. Hypoproct conspicuously thin basally, separated by very deep clefts from both flaps, however widened distad, with rounded top. Epiproct very small, digital. Both hypoproct and epiproct haired. Paraproctal lobes developed as two rather large lobulae. Hypandrium broad, of charac-



Figs. 49—55: *Bazzarella* (*P.*) *joosti lalehzarica* subsp. n. ♂. 49: apical antennal segments; 50: terminal lobe of labium; 51: maxilla and palpus maxillaris; 52: wing; 53: claw of P_1 ; 54: coxopodite and harpagon laterally; 55: epandrium and cerci dorsally. Scales 0.1 mm., in Fig. 51 — 1 mm.

teristic form. Cercus only a little longer than flap of epandrium from lateral view. Cerci conspicuously arched from lateral view, with pointed long protuberance caudally. Subapically with 28 frayed-like retinaculi of different length.

Material: Holotype ♂: S. E. Iran, Kerman province, Kuh-e Lalehzar (top 4374 m., 3850—4374 m.) (29 24 N, 56 46 E), 27.—29. V. 1977, Loc. No.

349, Cat. No. 33444, Inv. No. 2264; paratypes, 9 ♂♂, the same, Cat. No. 33445 — 33453, Inv. No. 2265 — 2273. All specimens J. Ježek leg.

Type-locality data: Alpine zone with rocks closing the valley of a stream. Alpine meadows with grasses, *Ranunculus*, *Potentilla*, *Primula*, *Draba* and *Veronica*. *Artemisia* steppe reaches borders of snow, oreol zone with growth of *Draba* [see Hoberlandt, 1983].

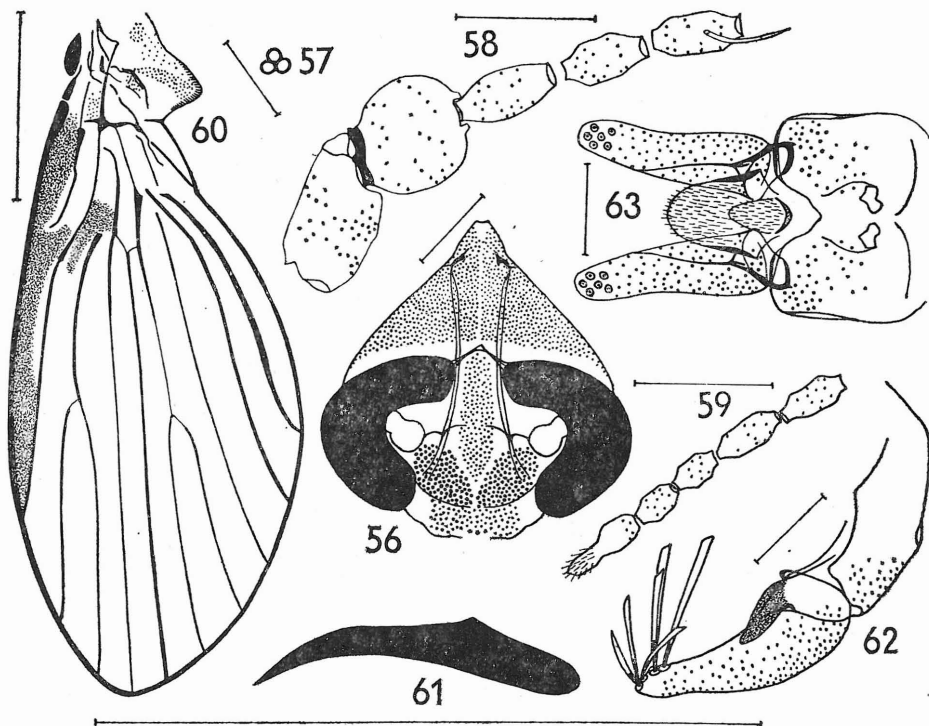
Derivatio nominis: The name is derived from Lalehzar — a mountain in S. E. Iran.

Comments: Figures are based on holotype only.

***Satchelliella gracilis kandavanica* subsp. n.**

[Figs. 56—69]

Differential diagnosis. Hardly distinguished from nominate taxon *S. gracilis gracilis* Eaton, 1893 which has harpagon with a rather short tip, without conspicuous sclerotization. Cu not strengthened; second

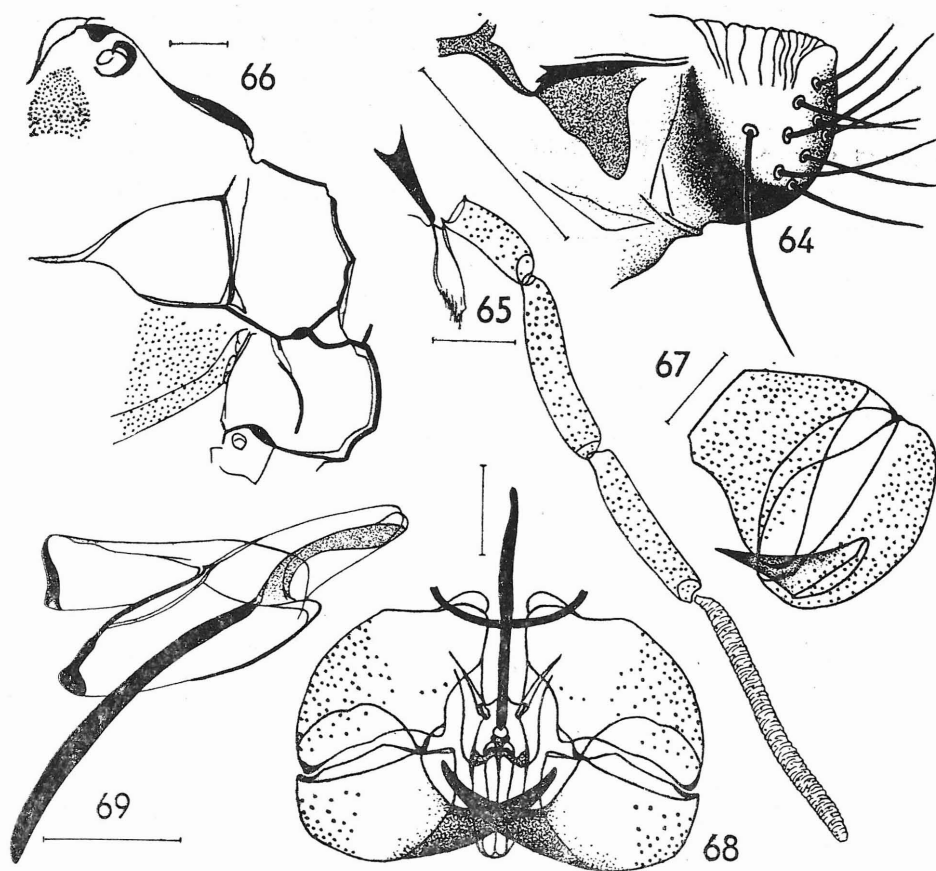


Figs. 56—63: *Satchelliella gracilis kandavanica* subsp. n. ♂. 56: head; 57: facets; 58: basal antennal segments; 59: apical antennal segment; 60: wing; 61: claw of P₁; 62: epandrium and cercus laterally; 63: epandrium and cerci dorsally. Scales 0.1 mm., in Fig. 59 — 1 mm.

segment of maxillary palpus almost twice longer than the first one. *S. gracilis kandavanica* subsp. n. has harpagon with a rather long tip, with conspicuous sclerotization. Cu strengthened; second segment of maxillary palpus 1.5 times longer than the first one.

Male. Eyes separated by haired frons with characteristic curb-roof-shaped suture dorsally. Minimum distance between eyes equals almost to 3 facet diameters. Ratio of distance of tangential points of eye's ends to facet diameter 7.6:1. Antennae 16-segmented. Scape short, almost cylindrical, its length approximately three times greater than width at base; pedicel almost globular, only inconspicuously asymmetrical. Index of length of scape to pedicel 1.2. Ratio of maximum width of first and second flagellar segments 1.1:1.0. Basal flagellar segments rather long, without necks, last three segments rather short, cask-shaped, terminal segment with long haired digital protuberance apically. Index of length of first flagellar segment to second one 1.2. All flagellar segments symmetrical. Sensory filaments long, simple, paired. Ratios of lengths of segments of maxillary palps 2.8:5.2:4.9:7.7. Last segment of maxillary palpus annulate, connected basally with top of foregoing segment. Ratio of maximum length of cibarium to length of epipharynx 1.4:1. Wings 3.0—3.4 mm. long, lancet-shaped, clear, clouded only among C, Sc and distal part of R_1 as well as in a small area at base of R_{2+3} . Strengthened parts of veins in area of wing: base of Sc, a small part of R_1 in an one third basally, R_{2+3} , base of R_4 and M_{1+2} , R_5 , M_4 and conspicuously Cu, partially (as figured) R_2 and M_2 . Angle of base of R_2 and R_3 acute, the angle of distal part of R_{2+3} and base of R_3 conspicuously larger than the same of R_{2+3} and R_2 . Angle of base of M_1 and M_2 as well acute, the angle of distal part of M_{1+2} and base of M_1 conspicuously larger than the same of M_{1+2} and M_2 . M_3 and Cu without a connection on M_4 . Wing membrane bare. Medial angle of wing 182.5° . Indexes of wing $AB:AC:AD=7.9:7.0:7.5$ and $BC:CD:BD=2.5:3.5:6.0$. Index of base of M_{1+2} , A to maximum width of wing 1.9. Ratio of length of haltere to its width 2.9:1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1=23.9:27.9$ (measured with terminal scale): 14.0; $P_2=24.1:32.0:14.5$; $P_3=26.3:37.5:16.0$. Paired tarsal claws of P_1 only a little bent with a blunt tooth dorsally. Claws without hairs ventrad. Corniculi, patagia and tegulae not developed. Basal apodeme of male genitalia thin, straight from dorsal view, arched from lateral view. Copulatory organ of characteristic shape as figured. Coxopodites short, outside without conspicuous protuberances, harpagones very broad at base, bent, with pointed very sclerotized tips. Epandrium with two basal apertures of irregular shape, the sclerotized remainders of 10th tergum and sternum inside of epandrium missing. Hypandrium narrow. Epiproct small, hypoproct large, both tongue-shaped, haired. Hypoproct almost twice longer than epiproct. Cercus approximately 1.5 times longer than epandrium from dorsal view. Cerci only inconspicuously bent from dorsal as well as lateral view. Cerci subapically with 6—8 retinaculi, the top of cercus without a bifurcation.

Material: Holotype ♂: N. Iran, Tehran province, Kuh-e Kohar (Mts. S. W. of Kandavan pass 36 06 N, 51 02 E), 4145 m., 7. VII. 1977, Loc. No.



Figs. 64—69: *Satchelliella gracilis kandavanica* subsp. n. ♂. 64: terminal lobe of labium; 65: maxilla and palpus maxillaris; 66: thoracal sclerites laterally; 67: coxopodite and harpagon laterally; 68: copulatory organ, coxopodites and harpagones dorsally; 69: copulatory organ laterally. Scales 0.1 mm.

397, Cat. No. 33454, Inv. No. 2274; paratypes, 9 ♂♂, the same, Cat. No. 33455 — 33463, Inv. No. 2275 — 2283. All specimens J. Ježek leg.

Type-locality data: Peak zone with rocks and snow (see Hoberlandt, 1983).

Derivatio nominis: The name is derived from Kandavan — a pass in North Iran.

Comments: Figures are based on holotype only.

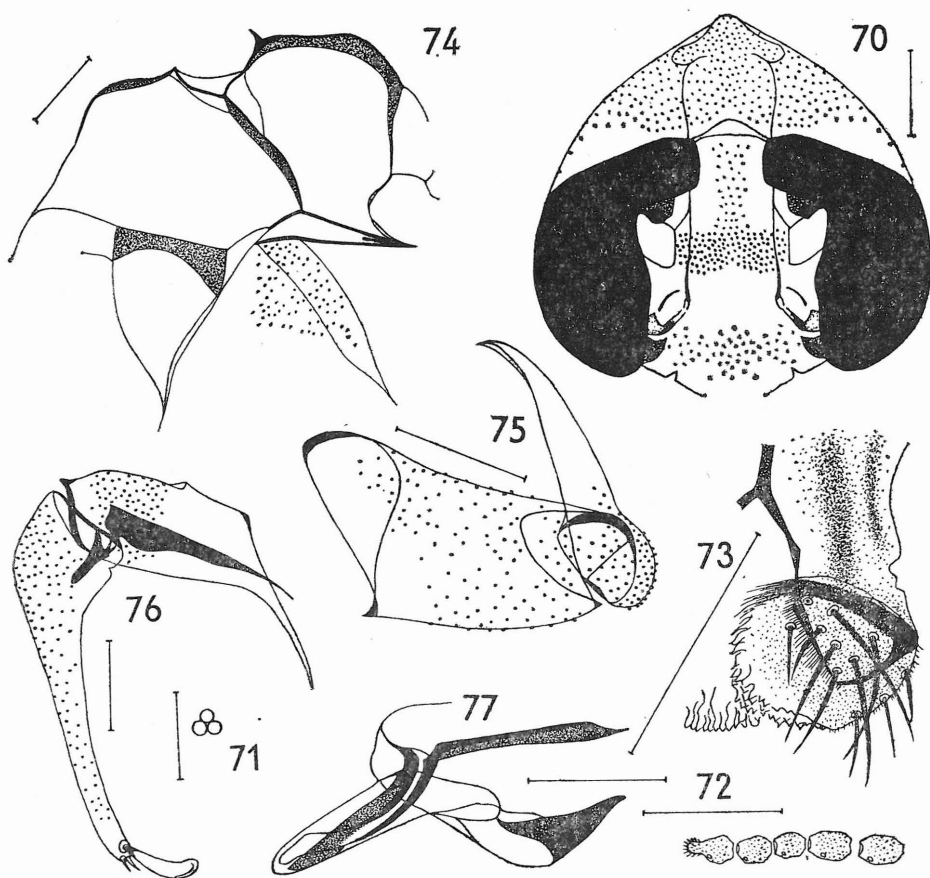
Satchelliella gracilis gracilis (Eat.). Lectotype-designation: ♂, Somerset; Stoney Stoke near Wincanton, 9. 5. 1892, Rev. A. E. Eaton 94—144, *Pericoma gracilis* Eaton, det. Eaton 1894. One loaned dry syntype from British Museum of which the following parts were dissected: head,

thorax with legs and wings. The mentioned parts were mounted together on a slide in Canadian Balsam. Two parts of hypopygium, dissected by a former specialist, were fixed in the original microprepareate form on the mentioned slide.

***Berdeniella hashemii* sp. n.**

(Figs. 70—83)

Differential diagnosis. Closely related to *B. nevadensis* Vaillant, 1977 (figured with a deficiency in the original paper and later by Wagner, 1983) which has lateral sclerotized margins of male copulatory organ rounded, harpagon with rather short pointed tip and single retinaculum,



Figs. 70—77: *Berdeniella hashemii* sp. n. ♂. 70: head; 71: facets; 72: apical antennal segment; 73: terminal lobe of labium; 74: thoracal sclerites laterally; 75: coxopodite and harpagon laterally; 76: epandrium and cercus laterally; 77: copulatory organ laterally. Scales 0.1 mm.

long in contrast to below described species, with lateral sclerotized margins of copulatory organ curb-roofly bent, harpagon with rather long pointed tip and single short retinaculum.

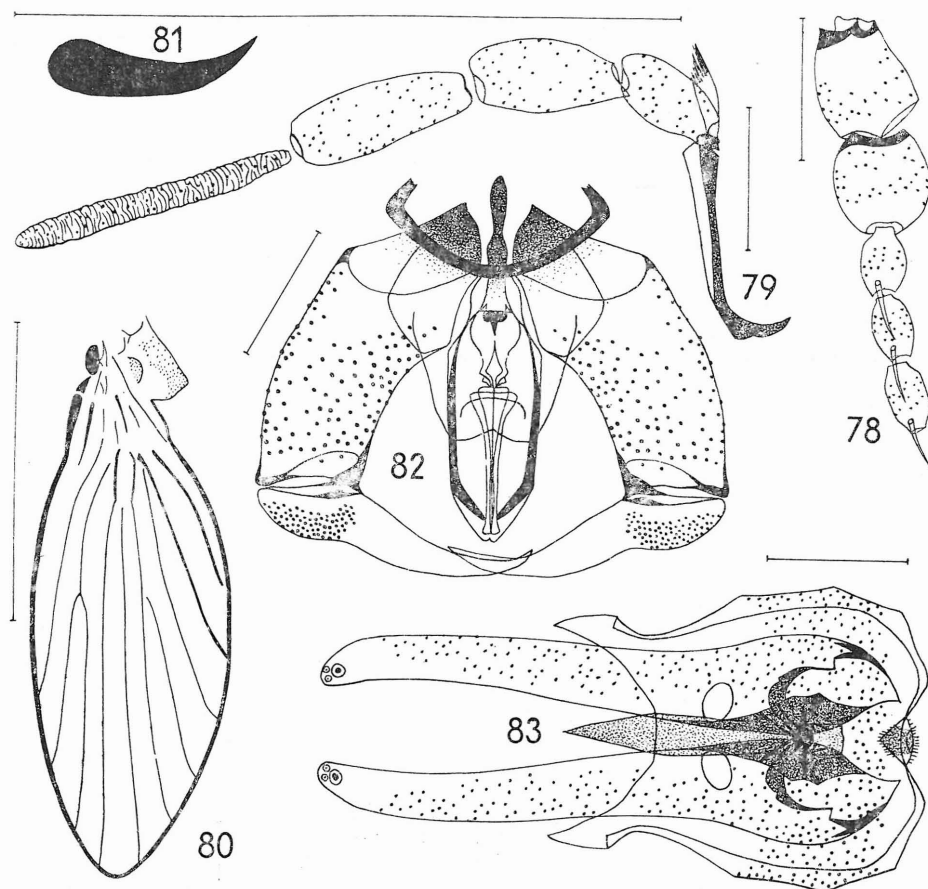
Male. Frons wide, haired, index of minimum distance of eyes to facet diameter 4.3. Frontal suture triangular. Ratio of distance of tangential points of eye's ends to facet diameter 11.5:1. Antennae 16-segmented. Scape approximately cylindrical, a little widened apically, its length 2.2 times greater than width at base. Pedicel almost globular, its length a little greater than width. Index of length of scape to pedicel 1.2. Ratio of maximum width of first and second flagellar segments 1.3:1.1. Flagellar segments cask-shaped, mostly symmetrical, index of length of first flagellar segment to second one 1.1. Apical segment with terminal very short digital protuberance. Sensory filaments paired, simple, a little shorter than length of flagellar segment. Ratios of lengths of segments of maxillary palps 3.1:4.4:5.0:7.8. Last segment of maxillary palpus annulate, connected basally with top of foregoing one. Ratio of maximum length of cibarium to length of epipharynx 2.6:1. Wings lancet-shaped, 2.6—3.0 mm. long, clear. There are some strengthened veins in basal half of wing: Sc, basal field, M₄ and Cu. Radial fork complete in contrast to incomplete medial fork. Cu reduced before hind wing margin. Angle of base of R₂ and R₃ acute, the angle of distal part of R₂₊₃ and R₃ larger than the same of R₂₊₃ and R₂. M₃ and Cu without a connection on M₄. Wing membrane bare. Index of base of M₁₊₂, A to maximum width of wing 2.1. Ratio of length of haltere to its width 2.9:1. Ratios of lengths of femora, tibiae and first tarsal segments: P₁=16.5:18.0:8.1; P₂=18.0:20.4:9.6; P₃=19.4:24.1:9.8. Paired tarsal claws of P₁ bent, without hairs ventrad. Corniculi, patagia and tegulae not developed. Basal apodeme of male genitalia straight from dorsal as well as lateral view, narrow; copulatory organ characteristic. Coxopodites long, outside without protuberances, harpagones a little shorter than coxopodites (from dorsal as well as lateral view). Epandrium with two basal elliptical apertures, the sclerotized remainders of 10th tergum and sternum inside of epandrium conspicuously developed. Hypandrium narrow. Epiproct very small, hypoproct large, both haired. Cercus 1.6 times longer than epandrium from dorsal and lateral view. Cerci inconspicuously S-shaped from dorsal view, a little bent from lateral view. Cerci subapically with one single short retinaculum and two small spines.

Female unknown.

Material: Holotype ♂: S. Iran, E. Zagros, Fars, Sisakht (30 47 N, 51 33 E), 2408 m., 13. and 15. VI. 1973, Loc. No. 240, Cat. No. 33464, Inv. No. 2284; paratypes, 3 ♂♂, the same, Cat. No. 33465 — 33467, Inv. No. 2285 — 2287. All specimens J. Ježek leg.

Type-locality data: Stony mountain steppe region; exposed slopes with *Quercus*, *Pistacia*, *Crataegus* and *Acer* (see Hoberlandt, 1981). Sources and moist places nr. an irrigate channel present.

Derivatio nominis: This new species is dedicated to Ing. Abbas Hashemi from the Plant Pests and Diseases Research Institute Tehran.



Figs. 78—83: *Berdeniella hashemii* sp. n. ♂. 78: basal antennal segments; 79: maxilla and palpus maxillaris; 80: wing; 81: claw of P₁; 82: copulatory organ, coxopodites and harpagones dorsally; 83: epandrium dorsally and cerci ventrad. Scales 0.1 mm., in Fig. 79 — 1 mm.

Comments: Figures are based on holotype, except Figs. 76 and 83 on paratype Inv. No. 2285.

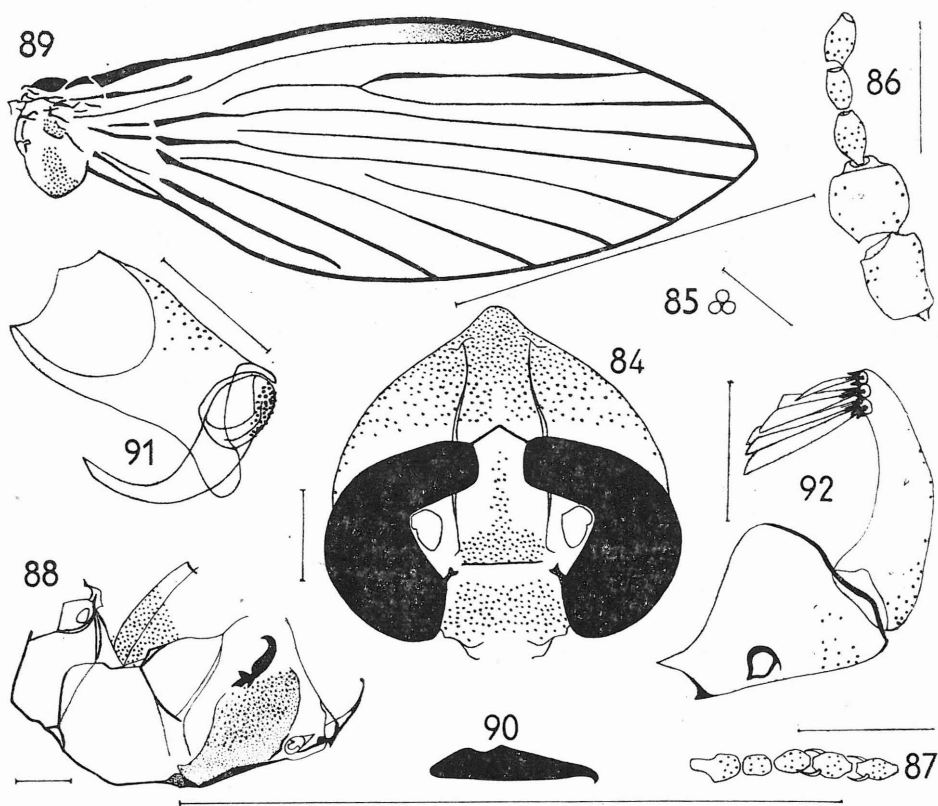
***Pericoma dlabolai* sp. n.**

[Figs. 84—97]

Differential diagnosis. Closely related to *P. alticola balcanica* Krek, 1985 which has coxopodites distad without large lobulus overlapping base of harpagon, harpagones with straight tip and epandrium without enlarged lateral margins in contrast to the below described species with

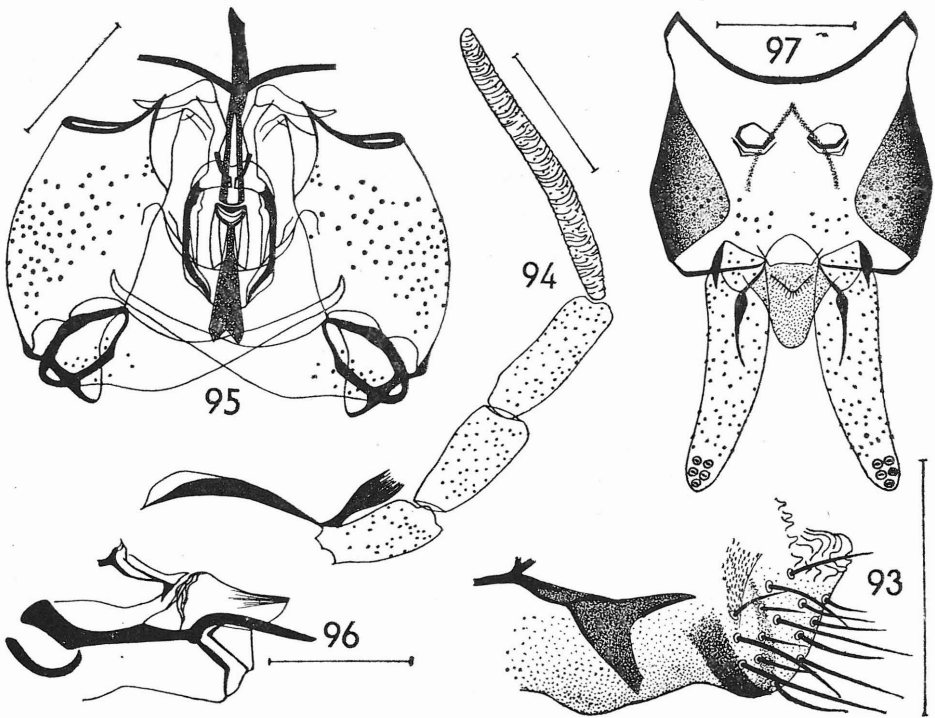
conspicuous large lobulus overlapping base of harpagon, harpagones with bent tip and epandrium with conspicuous enlarged lateral margins bent towards basal parts of cerci.

Male. Eyes separated, frons haired, minimum width of frons equals more than to three facet diameter. Frontal suture bent in obtuse angle. Ratio of distance of tangential points of eye's ends to facet diameter 12:1. Antennae 16-segmented. Scape almost cylindrical, its length 1.5 times greater than width apically; pedicel globular. Index of length of scape to pedicel 1.2. Ratio of maximum width of first and second flagellar segments 0.9:0.7. Index of length of first flagellar segment to second one 1.3. Flagellar segments cask-shaped, symmetrical, without necks, terminal segment with short digital protuberance apically, 15th segment somewhat reduced in size. Sensory filaments of antennae short, simple,



Figs. 84—92: *Pericoma dlabolai* sp. n. ♂. 84: head; 85: facets; 86: basal antennal segments; 87: apical antennal segments; 88: thoracic sclerites laterally; 89: wing; 90: claw of P_1 ; 91: coxopodite and harpagon laterally; 92: epandrium and cercus laterally. Scales 0.1 mm., in Fig. 88 — 1 mm.

paired, needle-shaped. Ratios of lengths of segments of maxillary palps 3.2:3.5:4.2:8.2. Last segment of maxillary palpus annulate, connected basally with terminal part of segment 3. Ratio of maximum length of cibarium to length of epipharynx 1.8:1. Wings lancet-shaped, 2.0–2.4 mm. long, clear, clouded only in small distal part of area between C and R₁. Sc, two parts of R₂, base of R₄ and M₁ (basal field), M₄ and Cu, ends of R₁, R₃–R₅, M₁–M₃ strengthened. Angle of base of R₂ and R₃ acute, the angle of distal part of R₂₊₃ and base of R₃ larger than the same of R₂₊₃ and R₂. Cu ends before hind margin of wing. M₃ and Cu without a connection on M₄. Wing membrane bare. Index of base of M₁₊₂, A to maximum width of wing 2.2. Ratio of length of haltere to its width (measured with basal stem) 2.8:1. Ratios of lengths of femora, tibiae and first tarsal segments: P₁=13.6:14.1 (measured with scale):6.6; P₂=14.6:17.1:8.3; P₃=15.2:19.6:7.8. Paired tarsal claws of P₁ straight, only apically hooked and dorsally with a cleft at base. Corniculi, patagia and tegulae not developed. Basal apodeme of male genitalia hockey-stick-shaped from lateral view and a little widened proximally, rather straight from dorsal



Figs. 93–97: *Pericoma dlabolai* sp. n. ♂. 93: terminal lobe of labium; 94: maxilla and palpus maxillaris; 95: copulatory organ, coxopodites and harpagones dorsally; 96: copulatory organ laterally; 97: epandrium and cerci dorsally. Scales 0.1 mm.

view; copulatory organ characteristic as figured. Coxopodit outside without conspicuous protuberance, however with conspicuous tongue-like lobulus distad which overlaps base of harpagon. Harpagones and coxopodites (measured with lobulus) of equal length from dorsal view. Epanandrium with enlarged lateral margins bent towards basal parts of cerci; basal paired apertures developed, the sclerotized remainders of 10th tergum and sternum inside of epanandrium only inconspicuously developed in very narrow stripes V-shaped. Hypandrium narrow. Epiproct very small in contrast to large hypoproct. Hypoproct almost triangular with rounded top, almost 6 times longer than epiproct. Cercus inconspicuously shorter than length of epanandrium from dorsal view. Cerci bent from lateral view, subapically with 5 retinaculi, the top of cercus without a bifurcation.

Material: Holotype ♂: E. Iran, Kerman province, Deh Bakri (29 03 N, 57 36 E), Kuh-e Jebal Barez (Jebal Barez Mts.), 1700—1750 m., 30. IV.—3. V. 1973, Loc. No. 186, Cat. No. 33468, Inv. No. 2288; paratypes, 4 ♂♂, the same, Cat. No. 33469 — 33472, Inv. No. 2289 — 2292. All specimens J. Ježek leg.

Type-locality data: Gravel and rocky river-bed with parallel irrigation channel, running brook and water sources with growth of *Mentha*, *Blasmus*, *Eleocharis* and *Salix* (see Hoberlandt, 1981).

Derivatio nominis: This new species is dedicated to Dr. J. Dlabola, CSc., member of our expeditions to Iran.

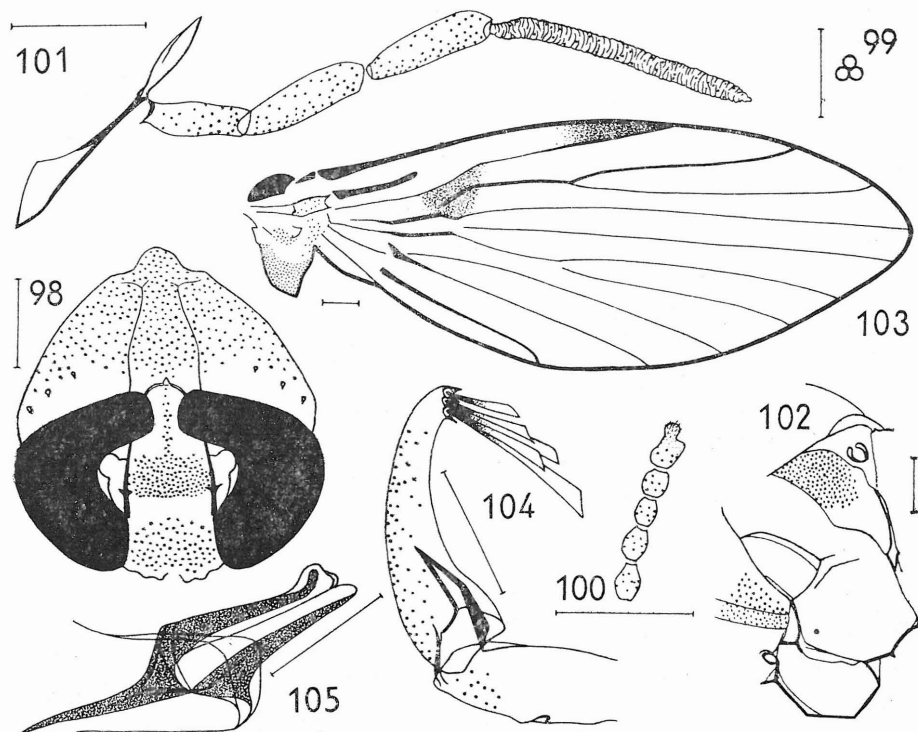
Comments: Figures are based on holotype.

***Pericoma taurica* sp. n.**

(Figs. 98—111)

Differential diagnosis. Species closely related to *P. pannonica* Szabó, 1960, which has basal apodeme of male genitalia bifurcated on its distal end, base of copulatory organ surrounded by a collar is not wrinkled, copulatory organ stake-shaped, simple in contrast to mentioned new species characterized by bifurcated basal apodeme in the middle of its length, base of copulatory organ wrinkled, copulatory organ composed of several prolonged paired small concresced membraneous gals (sacks, pouches).

Male. Eyes separated by frons; minimum distance of eyes equals to 1.5 facet diameter. Ratio of distance of tangential points of eye's ends to facet diameter 9.3:1. Antennae 16-segmented. Scape almost cylindrical, a little widened distad, length of scape 2.5 times greater than its width at base; pedicel almost globular, inconspicuously asymmetrical. Index of length of scape to pedicel 1.4. Maximum width of first and second flagellar segments is the same. Flagellar segments cask-shaped, progressively reduced to apex of antenna, symmetrical, terminal segment longer than foregoing one, with short finger-like protuberance aside of axis of segment. Sensory filaments rather long, simple, paired, needle-shaped. Ratios of lengths of segments of maxillary palps 2.9:3.8:3.8:7.5. Last segment of maxillary palpus annulate, connected basally with apex



Figs. 98—105: *Pericoma taurica* sp. n. ♂. 98: head; 99: facets; 100: apical antennal segments; 101: maxilla and palpus maxillaris; 102: thoracic sclerites laterally; 103: wing; 104: epandrium and cercus laterally; 105: copulatory organ laterally. Scales 0.1 mm.

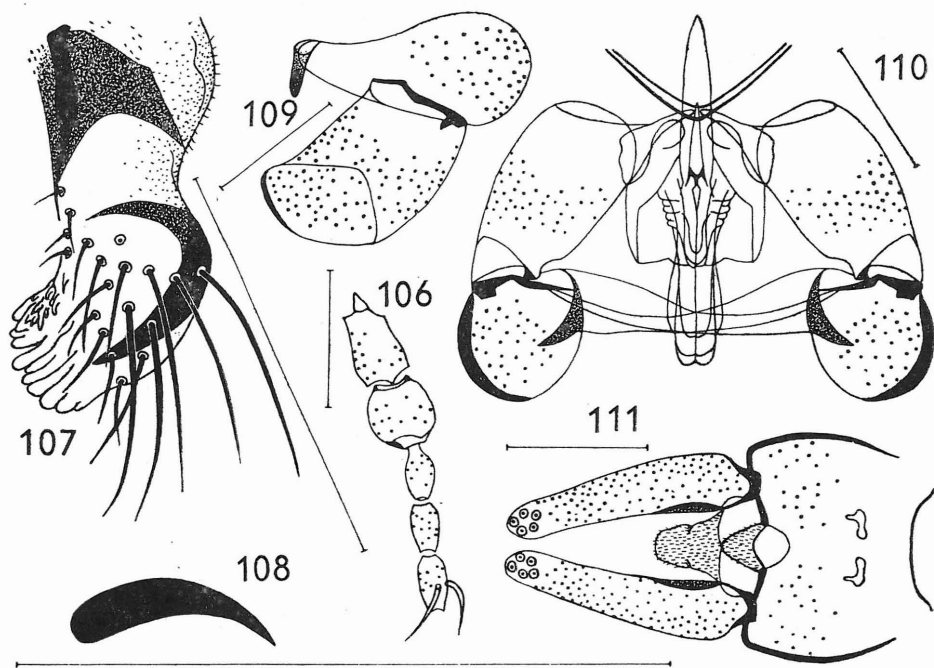
of the foregoing segment 3. Ratio of maximum length of cibarium to length of epipharynx 2.0:1. Wings lancet-shaped, 1.6—2.0 mm. long, clear, clouded only in a small area between C and R_1 behind radial fork as well as in the base of R_{2+3} . Strengthened veins: Sc, end of R_1 , R_{2+3} and R_2 , basal field, base of M_4 and Cu. Radial fork with acute angle of R_2 and R_3 . The angle of distal part of R_{2+3} and base of R_3 larger than angle of R_{2+3} and R_2 . Cu ends in hind margin of wing. M_3 and Cu without a connection on M_4 . Wing membrane bare. Index of base of M_{1+2} , A to maximum width of wing 2.2. Ratio of length of haltere (without basal part) to its width 2.8:1. Ratios of lengths of femora, tibiae and first tarsal segments: $P_1=13.0:12.8:6.8$; $P_2=13.5:15.8:8.2$; $P_3=14.1:18.0:8.3$. Paired tarsal claws of P_1 bent. Corniculi, patagia and tegulae not developed. Basal apodeme of male genitalia straight from dorsal and ventral view, proximally pointed, bifurcated in the middle, basal collar of copulatory organ conspicuously developed, copulatory organ long, composed of several prolonged, paired, small, concresced, membranous (not sclerotized), galls (pouches, sacs), wrinkled at base. Characteristic structures are

figured. Coxopodites outside without protuberances, harpagones almost twice as long as coxopodites from dorsal view. Harpagones with almost globular part basally and very thin, long and pointed part distad. Epan-drium with two basal apertures of irregular shape, the sclerotized re-mainers of 10th tergum and sternum inside of epan-drium missing. Hypandrium narrow. Epiproct small in contrast to large hypoproct, both parts haired. Epiproct triangular with rounded top, hypoproct tongue-shaped with a medial cleft and blunt top. Cerci 1.6 times longer than epan-drium from dorsal view, almost straight from dorsal view, arched from lateral view, subapically with 5 rather long retinaculi and some short spains at its base. Top of cercus without a bifurcation.

Material: Holotype ♂: Turkey, Elazig, river Murat, 30. VII. 1977, Cat. No. 33473, Inv. No. 2293; paratypes, 4 ♂♂, the same, Cat. No. 33474 — 33477, Inv. No. 2294 — 2297. All specimens J. Ježek leg.

Derivatio nominis: The name is derived from Taurus — Mts. near lake Van in Anatolia.

Comments: Figures are based on holotype, except Figs. 100 and 102 on paratype Inv. No. 2294.

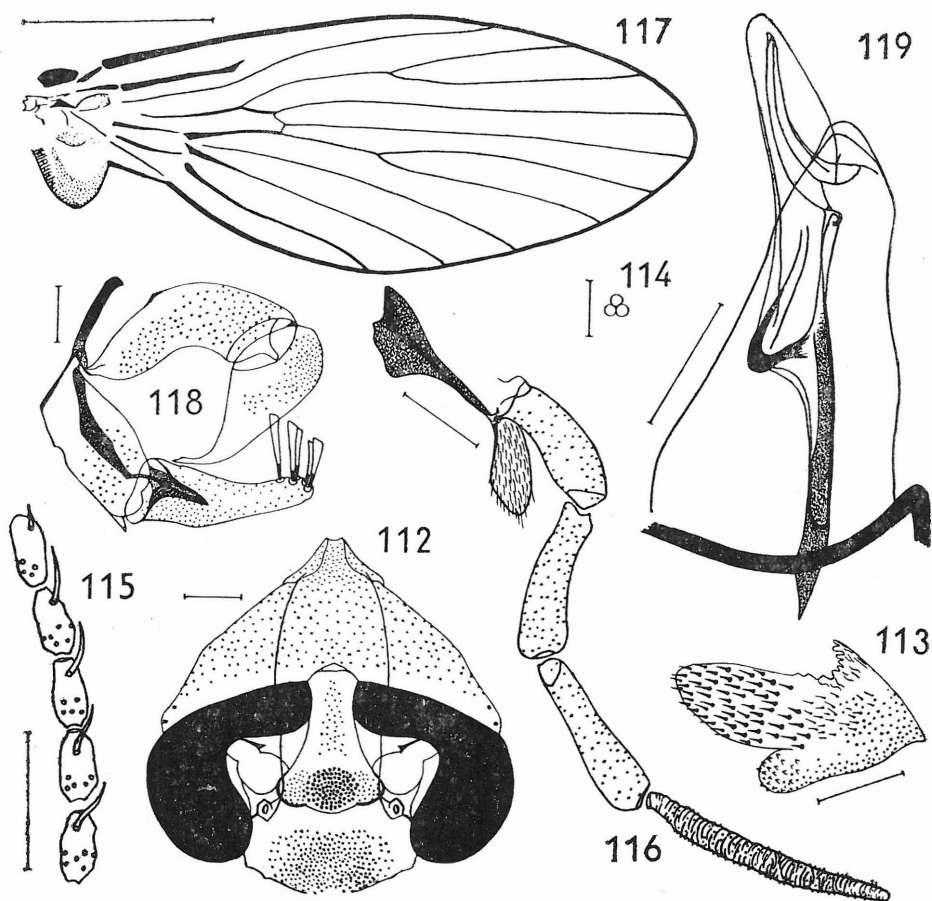


Figs. 106—111: *Pericoma taurica* sp. n. ♂. 106: basal antennal segments; 107: terminal lobe of labium; 108: claw of P_1 ; 109: coxopodite and harpagon laterally; 110: copulatory organ, coxopodites and harpagones dorsally; 111: epan-drium and cerci dorsally. Scales 0.1 mm.

***Saraiella ressli montana* subsp. n.**

(Figs. 112—125)

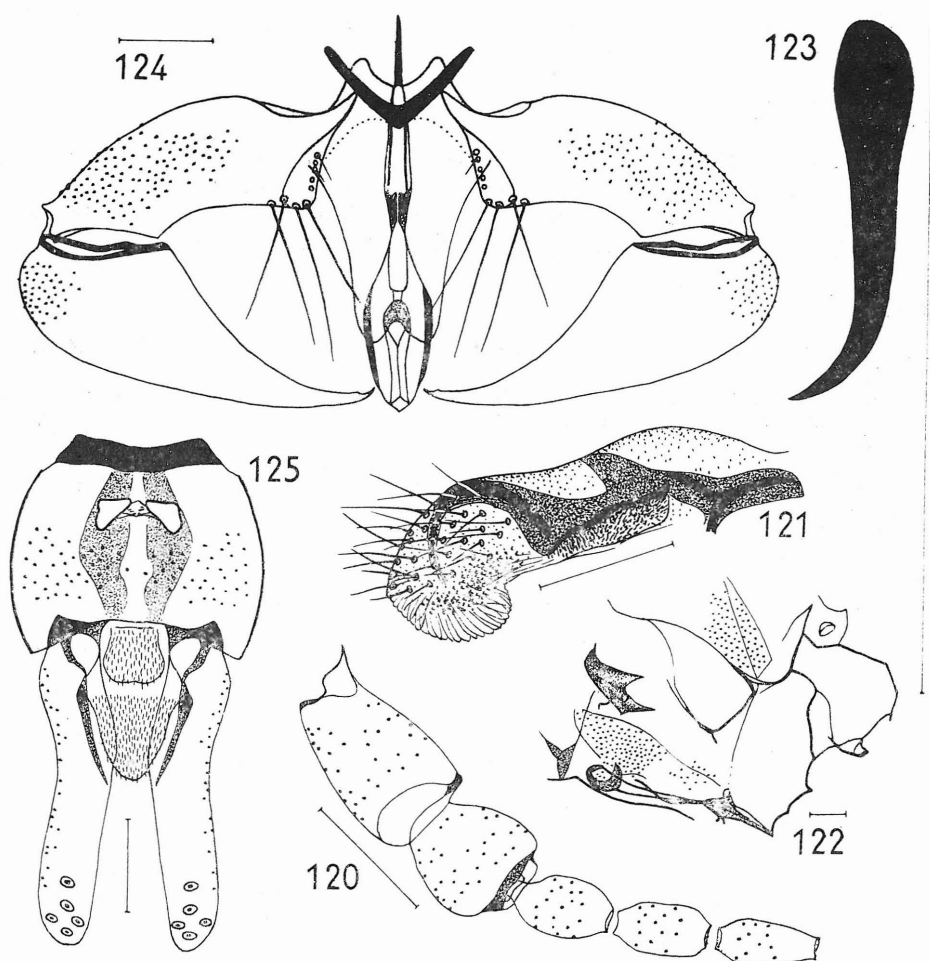
Differential diagnosis. Closely related to *S. ressli ressli* Wagner, 1981, which has last three antennal segments very reduced, almost globular, terminal segment bears a short apiculus, coxopodites basally without bristles, harpagones without subapical tooth terminally in contrast to *S. ressli montana* subsp. n. where last three antennal segments are fully developed, long-oval, terminal segment without an apiculus, coxopodites with several bristles basally, harpagones with a small subapical tooth terminally.



Figs. 112—119: *Saraiella ressli montana* subsp. n. ♂. 112: head; 113: patagium; 114: facets; 115: apical antennal segments; 116: maxilla and palpus maxillaris; 117: wing; 118: hypopygium laterally; 119: copulatory organ laterally. Scales 0.1 mm., in Fig. 116 — 1 mm.

Male. Minimum distance between eyes equal to more than 3.5 facet diameter, frons haired, with a triangular suture dorsally, ratio of distance of tangential points of eye's ends to facet diameter 14:1. Antennae 16-segmented. Scape approximately cylindrical, its length almost twice greater than width apically; pedicel a little longer than maximum width, pitcher-shaped, a little asymmetrical. Index of length of scape to pedicel 1.6. Ratio of maximum width of first and second flagellar segments 1.2:1. Flagellar segments more or less cylindrical, almost symmetrical, index of length of first flagellar segment to second one 1.1. Terminal segment without a finger-like protuberance, length of apical antennal segment equals to length of foregoing one. Sensory filaments of antennae simple, rather long, antennal segment 16 with a reduced filament. Ratios of lengths of segments of maxillary palps 3.8:4.4:4.7:7.1. Last segment of maxillary palpus annulate, connected basally with a part inconspicuously below top of segment 3. Ratio of maximum length of cibarium to length of epipharynx 1.9:1. Wings lancet-shaped, 3.5—4.0 mm. long, clear. Sc, almost whole basal field, base of M_4 and Cu strengthened. Angle of base of R_2 and R_3 acute, the angle of distal part of R_{2+3} and R_3 a little larger than the angle of R_{2+3} and R_2 . Angle of base of M_1 and M_2 acute as well, the angle of distal part of M_{1+2} and M_1 larger than the angle of M_{1+2} and M_2 . Cu ends in hind margin of wing. M_3 and Cu without a connection on M_4 . Wing membrane bare. Medial angle of wing 176° . Indexes of wing $AB:AC:AD=8.5:8.4:9.1$ and $BC:CD:BD=2.2:3.2:5.4$. Index of base of M_{1+2} , A to maximum width of wing 2.0. Ratio of length of haltere to its width 5.3:1. Ratios of lengths of femora, tibiae and first tarsal segments (holotype): $P_1=22.6:25.0:11.8$; $P_2=25.2:29.8:12.8$; $P_3=8.4:33.1:13.8$. Paired tarsal claws almost straight, conspicuously bent on its distal end only. Corniculi as well as tegulae missing. Patagia conspicuous, divided in two unequal lobes; larger lobe with strong spines. Basal apodeme very narrowed in proximal part from dorsal view, widened from lateral view, a little bent. Copulatory organ as figured. Coxopodites long, bent, outside without conspicuous protuberances, harpagones a little longer than coxopodites. Harpagones very thickened proximally from dorsal view, slightly curved, decreasing in diameter and ending in a tip with small tooth subapically. Basal paired apertures developed, the sclerotized remainders of 10th tergum and sternum inside of epandrium developed in a shape of two parallel stripes widened outside in the middle. Hypandrium a little widened in the middle. Epiproct small, almost square shaped, a little widened distad, with rounded caudal tops. Hypoproct 1.5 times larger than epiproct, triangular, with rounded top. Both parts haired. Cercus 1.5 times longer than length of epandrium from dorsal view. Cerci a little curved from dorsal as well as lateral view. Cerci subapically with 5 retinaculi, the top of cercus without a bifurcation.

Material: Holotype ♂: S. E. Iran, Kerman province, Kuh-e Lalehzar (top 4374 m., 3850—4374 m.) (29 24 N, 56 46 E), 27.—29. V. 1977, Loc. No. 349, Cat. No. 33478. Inv. No. 2298; paratypes: 2 ♂♂, the same, Cat. No. 33479 — 33480, Inv. No. 2299 — 2300, 2 ♂♂, E. Iran, Kerman province, Deh Bakri (29 03 N, 57 36 E), Kuh-e Jebal Barez (Jebal Barez Mts.),



Figs. 120—125: *Saraiella ressl i montana* subsp. n. ♂. 120: basal antennal segment; 121: terminal lobe of labium; 122: thoracic sclerites laterally; 123: claw of P_1 ; 124: copulatory organ, coxopodites and harpagones dorsally; 125: epandrium and cerci dorsally. Scales 0.1 mm.

1700—1750 m., 30. IV.—3. V. 1973, Loc. No. 186, Cat. No. 33481 — 33482, Inv. No. 2301 — 2302. All specimens J. Ježek leg.

Type-locality data: Valleys with rivers, brooks, streams or sources with growth of *Mentha*, *Blysmus*, *Eleocharis* and *Salix* or alpine meadows with grasses, *Ranunculus*, *Potentilla*, *Primula*, *Draba* and *Veronica* (characterized in detail by Hoberlandt, 1981 and 1983).

Derivatio nominis: The name *montana* indicates mountain habitat of this subspecies in contrast to nominate taxon.

Comments: Figures are based on holotype, except Figs. 118, 119, 123 and 124 on paratype Inv. No. 2299.

Acknowledgements

I am very obliged to Mr. B. C. Townsend (London, British Museum) for a loan of syntype material for lectotype-designation as well as to Dr. L. Hoberlandt and Dr. J. Dlabola (Praha, National Museum) for some photographs of type-localities presented here in this paper.

References

- Eaton A. E., 1983: A synopsis of British Psychodidae. *Ent. Mag.*, **29**: 5—8, 31—34, 120—130.
- Hoberlandt L., 1981: Results of the Czechoslovak-Iranian entomological expeditions to Iran. Introduction to the second expedition 1973. *Acta ent. Mus. Nat. Pragae*, **40**: 5—32.
- Hoberlandt L., 1983: Results of the Czechoslovak-Iranian entomological expeditions to Iran. Introduction to the third expedition 1977. *Acta ent. Mus. Nat. Pragae*, **41**: 5—24.
- Ježek J., 1984: New and little known moth flies (Diptera, Psychodidae) from Iran. *Čas. Nár. muz.* — ř. přírod., **153**: 1—9.
- Ježek J., 1987a: *Iranotelmatoctopus hajiabadi* gen. n., sp. n. (Diptera, Psychodidae) from the Palaearctic region. *Acta ent. Mus. Nat. Pragae*, **42**: 5—10.
- Ježek J., 1987b: *Peripsychoda iranica* sp. n. (Diptera, Psychodidae) with contributions to the genus and redescrptions of included species. *Acta ent. Mus. Nat. Pragae*, **42**: 189—206.
- Ježek J., 1989a: Redescrptions of nine common palaearctic and holarctic species of Psychodini End. (Diptera, Psychodidae). *Acta ent. Mus. Nat. Pragae*, **43**: 33—83.
- Ježek J., 1989b: Contribution to the taxonomy of some genera of Paramormiine moth flies (Diptera, Psychodidae) with description of a new genus *Karakouvimerus*. *Acta ent. Mus. Pragae*, **43**: 129—157.
- Krek S., 1985: Die Psychodidaeen — Fauna der SR Serbien. Proc. Faun. SR Serbia, Belgrade, **3**: 149—182.
- Satchell G. H., 1953: The Australian Psychodidae (Diptera), Part I. *Aust. J. Zool.*, Melbourne, **1**: 357—418.
- Schellenberg J. R., 1803: Genres des Mouches Dipteres, representes en XLII Planches projettees et dessinees par Mr. J. R. Schellenberg et expliquees par deux amateurs de l'Entomologie. Zürich, Orell, 95 pp.
- Szabó J., 1960: Neue, sowie aus dem Karpatenbecken bisher nicht nachgewiesene Psychodiden — Arten (Diptera, Nematocera). *Acta zool. Acad. Sci. Hung.*, Budapest, **6**: 419—428.
- Quate L. W., 1955: A revision of the Psychodidae (Diptera) in America north of Mexico. *Univ. Calif. Publ. Ent.*, Berkeley, **10**: 103—273.
- Quate L. W. et Quate S. H., 1967: A monograph of Papuan Psychodidae, including *Phlebotomus* (Diptera). *Pacif. Insects. Monogr.*, **15**: 1—216.
- Vaillant F., 1961: Révision des Psychodidae Psychodinae de France (Diptera). *Ann. Soc. ent. France*, Paris, **130**: 131—157.
- Vaillant F., 1971—1983: Psychodidae Psychodinae. In Lindner E. (ed.): Die Fliegen der Palaearktischen Region, Stuttgart, **9d**: 1—358.
- Vaillant F. et Joost W., 1983: On a small collection of Diptera Psychodidae from Caucasus (USSR) and Bulgaria. *Reichenbachia*, Dresden, **21**: 95—106.
- Wagner R., 1981: Some Psychodidae (Diptera) from the Southern Caucasus and Iran. *Aquatic Insects*, **3**: 45—56.
- Wagner R., 1983: Zur Situation der Gattung *Berdeniella* Vaillant 1976 in Europa (Diptera, Psychodidae). *Mitt. Münch. Ent. Ges.*, **72**: 159—186.
- Wagner R., 1984: New European species of genus *Atrichobrunettia* Satchell (Diptera:

- Psychodidae). *Biol. Gallo-Hellenica*, 11(1): 31—36.
- Wagner R. et Vaillant F., 1983: The Atrichobrunettia (=Mirousiella) (Diptera, Psychodidea) from Europe. *Aquatic Insects*, 5(3): 157—162.
- Walker F., 1856: *Insecta Britannica*. Diptera. III. London, 352 pp.

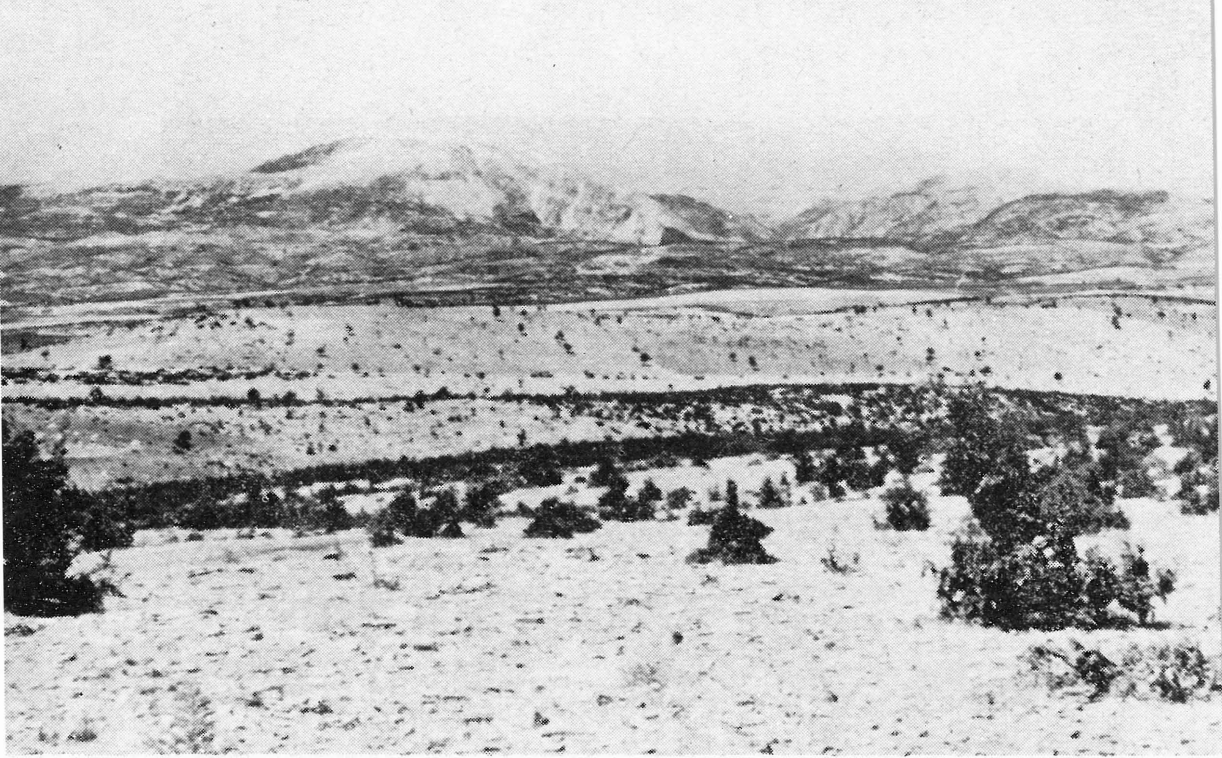
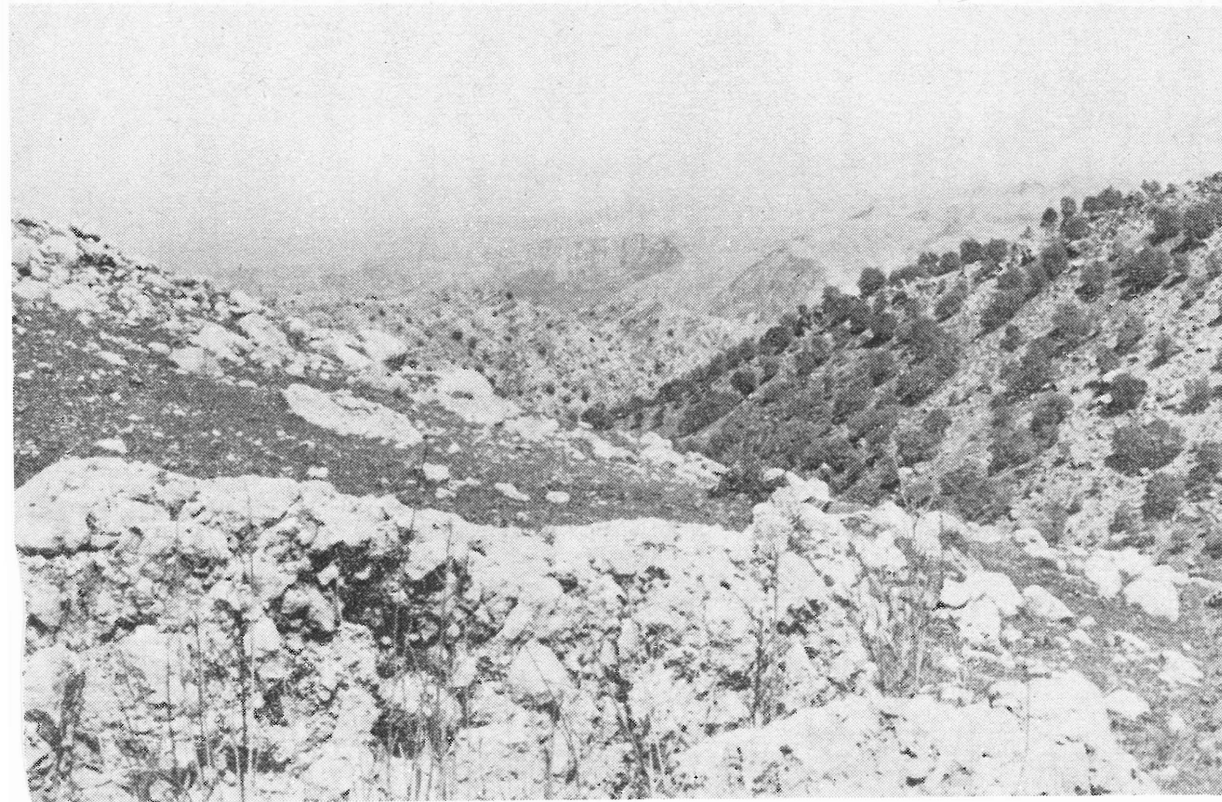


Fig. 126: Valley of the river Murat nr. Elazig in the East Anatolia — type locality of *Pericoma taurica* sp. n. and a habitat of *Atrichobrunettia tenuipennis* Wag. et Vaill. (photo author).

Fig. 127: Sparse forest of *Quercus brantii* with water sources nr. Babazaid (Lorestan province) — type locality of *Jungiella* (*J.*) *hoberlandti* sp. n. (photo author).



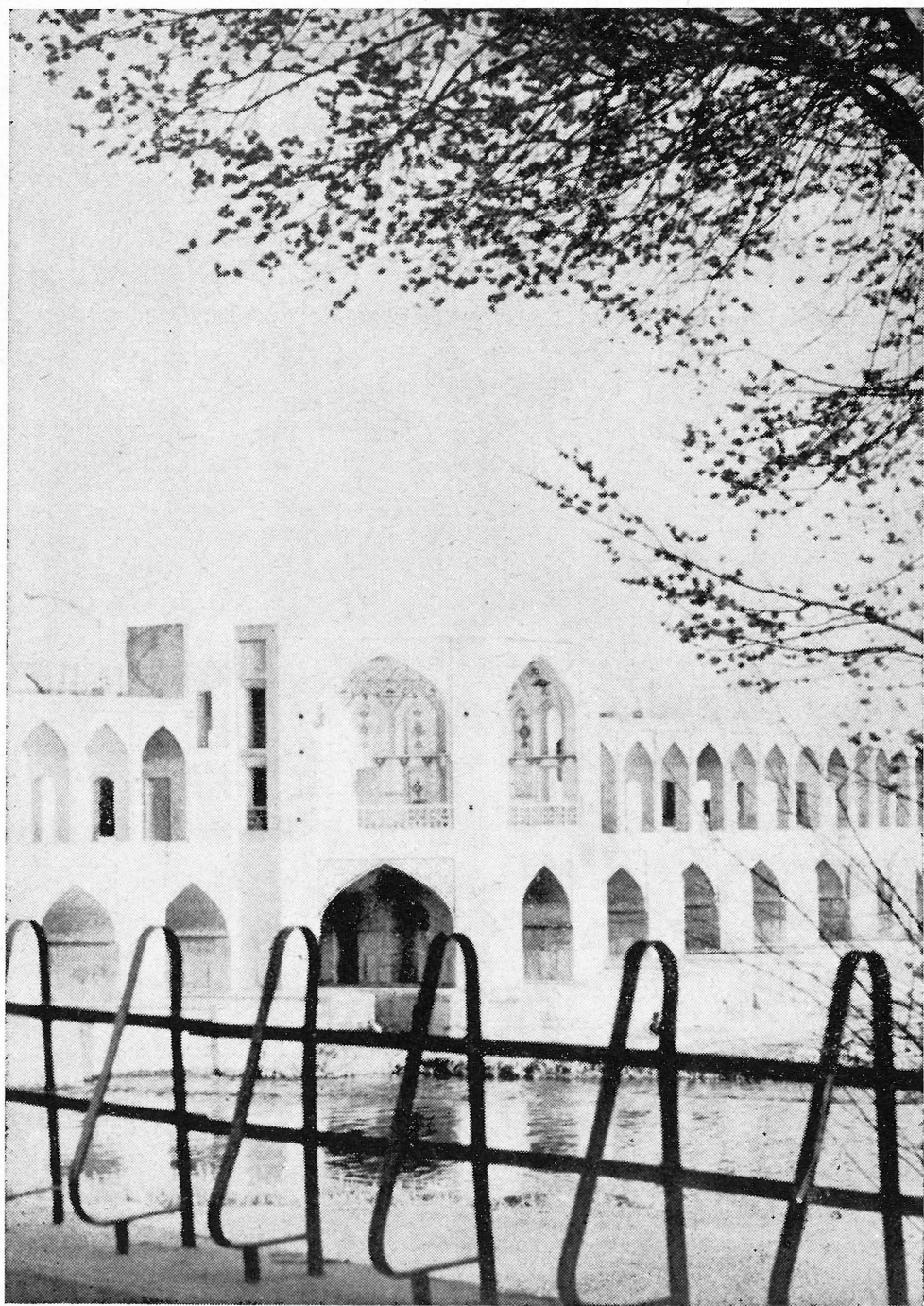


Fig. 128: Esfahan (Central Iran) — type locality of *Tinearia esfahanica* sp. n. (photo author).



Fig. 129: Kuh-e Lalehzar (Kerman province), alpine zone with rocks closing the valley of a stream (3850—4374 m.) (photo author).



Fig. 130: Kuh-e Lalehzar, alpine meadows with many streams — habitat of *Bazarella* [P.] *joosti lalehzarica* subsp. n. and *Saraiella resli montana* subsp. n. (photo author).

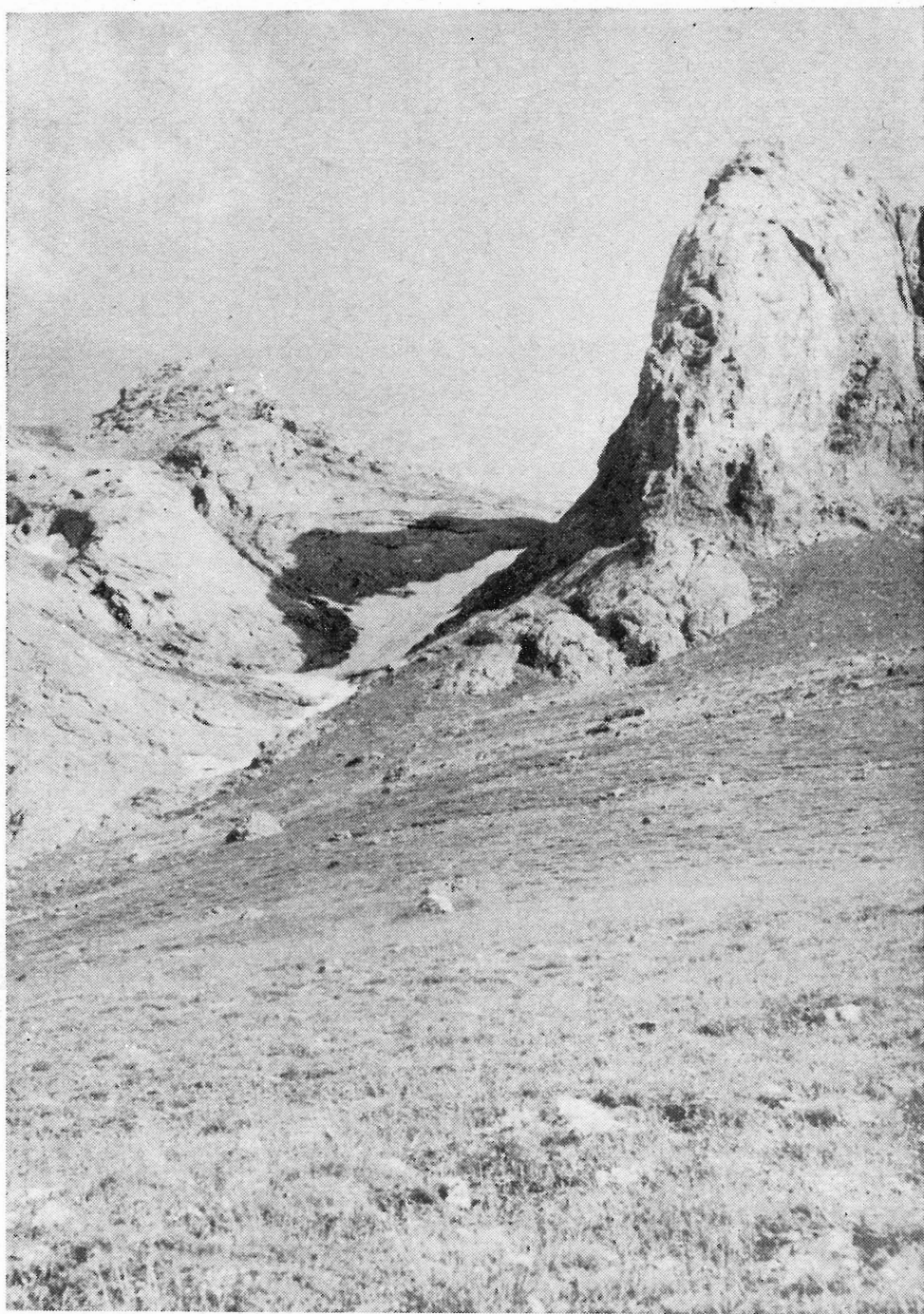


Fig. 131: Kuh-e Kohar, alpine zone — habitat of *Satchelliella gracilis kandavanica* subsp. n. [photo author].



Fig. 132: Moist biotopes of stony steppe region nr. Sisakht in province Fars (E. Zagros)
— type locality of *Berdeniella hashemii* sp. n. (photo Dr. L. Hoberlandt).

Fig. 133: Deh-Bakri (Kerman province), rocky river bed in area of Kuh-e Jebal Barez —
type locality of *Pericoma dlabolai* sp. n. and *Saraiella resslī montana* subsp. n. (photo
Dr. J. Dlabola).

