

## Four new West Palaearctic species of *Rhamphomyia* (s. str.) Meigen (Diptera: Empididae)

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**Four new West Palaearctic species of *Rhamphomyia* (s. str.) Meigen (Diptera: Empididae).** - *Rhamphomyia* (s. str.) *bohousi* sp. n. (Turkey), *R.* (s. str.) *haennii* sp. n. (France), *R.* (s. str.) *iranica* sp. n. (Iran), and *R.* (s. str.) *sulcanda* sp. n. (France, Spain, Switzerland), are described and illustrated.

**Keywords:** *Rhamphomyia* (s. str.) - new species - West Palaearctic - taxonomy.

### INTRODUCTION

The species of the subgenus *Rhamphomyia* (s. str.) Meigen, 1822 are usually medium-sized to large flies, possessing setose propleura, acute axillary angle and complete anal vein ( $A_1$ ). A more detailed description is given by Barták (1982) and Barták & Sinclair (2003). A list of the Palaearctic species of the subgenus has been provided by Chvála & Wagner (1989) which should be supplemented with species described more recently (Barták & Srovnáček, 1983; Barták, 1998; Barták *et al.*, 2007; Barták, 2007).

### MATERIAL AND METHODS

The material studied is deposited in the following collections:

CULSP	Czech University of Life Sciences, Prague – former Czech University of Agriculture
DEI	Deutsches Entomologisches Institut, Müncheberg
MHK	Museum of eastern Bohemia, Hradec Králové
MHNG	Muséum d'histoire naturelle, Geneva
MHNN	Muséum d'Histoire Naturelle, Neuchâtel
NMP	National Museum, Prague
UMO	University Museum, Oxford

The genitalia were macerated in 10% KOH (24 hours, room temperature) and they were stored together with specimens in plastic microvials with glycerine. The morphological terms used here follow those of Merz & Haenni (2000) and Sinclair (2000). Abbreviations: T1l, T2l, T3l = length of fore, mid, hind tibia; B1l, B2l, B3l = length of fore, mid, hind basal tarsomere; B1w, B2w, B3w = width of fore, mid, hind basal tarsomere; M2/D = length of vein M2: greatest length of discal medial cell (= discal cell); M3/Db = length of apical: preapical sections of vein  $CuA_1$ ; lw: ww = greatest length of wing: greatest width of wing. Ratio of antennal segments = length of

anteroventrals and posteroventrals present only in basal part of femur. Hind tibia slightly swollen distally, with 6-8 pairs of setae dorsally, the longest setae slightly longer than tibia is deep, ventral setae very short. Basal tarsomere of fore leg slender, dorsal setae slightly longer than this tarsomere is deep, short ventral spine-like setae present, T1l: B1l = 2.1-2.3, B1l: B1w = 8.8-9.4, basal tarsomere of mid legs slender and short setose, with short ventral spine-like setae, T2l: B2l = 2.0-2.3, B2l: B2w = 6.8-7.8. Basal tarsomere of hind leg slightly narrower than tip of tibia (but slightly broader than remainder tarsomeres), with several setae dorsally twice as long as this tarsomere is deep, T3l: B3l = 1.9-2.0, B3l: B3w = 6.5-6.6. Wing light brownish, stigma brown, veins brown, anal vein ( $A_1$ ) complete. Costal seta absent, axillary angle sharply acute. M2/D = 1.5-1.8, M3/Db = 2.7-3.0, lw: ww = 2.8-3.0. Halter yellow; calypter brownish-yellow with dark fringes. Abdomen brownish-black, tergite 6 and sternite 8 partly polished, tergite 7 polished, other parts grey microtrichose. All abdominal setae dark. Hind marginal setae on sides of tergites 2-5 slightly longer than corresponding segments, on tergite 6-7 short, discal setae shorter than marginals; dorsum of tergites with short setae; sternite 1 setose on sides. Terminalia as in Figs 1-2: cercus twice higher than long; epandrium simple, long setose around tip; hypandrium short; phallus thin and evenly bowed. Length of body 5.9-6.5 mm, wing 6.0-6.5 mm.

**FEMALE:** Similar to male but with the following exceptions. Eyes broadly dichoptic, all facets subequal in size. Frons 0.35-0.40 mm long and 0.30 mm broad, bearing several rather long (nearly 0.20 mm) marginal setae arranged irregularly (not in a single row) and extending to level of ocellar triangle. Ocellar setae strong and 2/3 as long as frons. Face 0.30-0.35 mm broad in middle and nearly 0.40 mm long. Ratio of antennal segments = 25: 11: 45: 10. Labrum 2.0 times as long as head is high. Palpus with shorter setae than in male (maximum 0.20 mm). Occiput similarly coloured as in male but differently setose: dorsal half with sparse moderately strong setae, mid part bare, ventral part with fine setae. Thorax similarly coloured and setose as in male, but setae slightly shorter (both acrostichals and dorsocentrals about 0.15-0.20 mm long), only 1-2 prescutellar dorsocentrals and 4-6 scutellars. Both fore femur and tibia very short setose. Mid femur with very short anteroventral setae (only 0.05 mm long), dorsally along whole length and posteroventrally in distal half with pennate setation shorter than femur is deep. Mid tibia with posterodorsal pennation slightly shorter than femur is deep, otherwise very short setose. Hind femur with short dorsal and posteroventral pennation, and with short anteroventral spine-like setae. Hind tibia slightly broadened and flattened (about as broad as hind femur), with pennation slightly shorter than tibia is deep in exactly dorsal position in addition to 4-5 pairs of anterodorsal and posterodorsal setae slightly shorter than tibia is deep, ventral setae very short. Basal tarsomere of fore leg slender and short setose, with short ventral spine-like setae. T1l: B1l = 2.1-2.3, B1l: B1w = 8.3, basal tarsomere of mid leg slender and short setose, dorsal setae distinctly flattened, T2l: B2l = 2.0-2.1, B2l: B2w = 5.6-6.5, basal tarsomere of hind leg slender, with several dorsal setae slightly longer than this tarsomere is deep and with short spine-like setae ventrally, T3l: B3l = 2.4, B3l: B3w = 5.0-5.7. Wing as in male or slightly darker brownish. M2/D = 1.5, M3/Db = 2.5-2.6, lw: ww = 2.6-2.9. Abdomen black, grey microtrichose. Hind marginal setae on segments 2-3(4?) about half as long as corresponding segments, on remainder



first: 2nd: 3rd: style (in 0.01 mm scale). Characters marked with ? are unclear (e.g. width of face or frons may be difficult to measure when shrunken, or length of setae when broken, etc.).

#### SYSTEMATIC PART

##### *Rhamphomyia* (s. str.) *bohousi* sp. n.

Figs 1, 2

HOLOTYPE MALE: Turcia bor. occ., Abant Lake Natural Park, Abant Golu Lake, 40°34'N, 31°14'E, 1200 m, mixed forest, B. Mocek. 13.v.1996 (MHK).

PARATYPES: Same data as the holotype, 3 ♂, 7 ♀ (CULSP, MHK).

DISTRIBUTION: Turkey.

DATES OF OCCURRENCE: May.

MALE: Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons black, grey microtrichose, bare. Ocellar setae fine, black, less than 1/3 as long as frons, ocellar triangle with several additional shorter setae. Face black, grey microtrichose (polished on small area in central part ventrally), at least 0.35 mm broad ventrally and 0.40 mm long, bare. Occiput black, grey microtrichose, rather densely and fine black setose, bare just behind eyes in ventral half. Antennae black, ratio of antennal segments = 25: 15: 65: 14, the longest setae on basal two segments about 0.35 mm long. Labrum brown, polished, 1.5-1.8 times as long as head is high. Palpus brown, short, rather sparsely covered with setae along whole length (the longest ones 0.35 mm long). Genae medium broad and mostly polished, clypeus polished on outer parts and microtrichose along central part. Thorax black, rather light grey microtrichose, mesoscutum with somewhat darker and more brownish stripes on the lines of the acrostichal and dorsocentral setae. All thoracic setae black. Chaetotaxy: the whole of prosternum and proepisternum covered with numerous setae; about 10 setae on proepisternal depression; more than 50 irregularly 3-5 serial, fine and short acrostichals (about 0.20 mm long); multiserial dorsocentrals somewhat longer than acrostichals, ending in 4-5 prescutellars, the whole presutural area of mesoscutum densely covered with similar setae, both intrahumeral and posthumeral not prominent; postpronotal seta only scarcely differentiated from surrounding setae; 3 notopleurals (anterior part of notopleural depression densely setose); 2-3 supraalars; 4-5 setae on prealar area; 1 long and several small postalars; 6-8 scutellars; laterotergite (metapleura) with black setae. Coxae concolorous with pleura, microtrichose, black setose. Legs brownish-black, black setose. One long seta present in comb at tip of hind tibia. Fore femur with irregular anteroventral row of rather fine setae subequally long as femur is deep, posteroventrals equally fine but much shorter, in middle less than 1/3 as long as femur is deep. Fore tibia without anterodorsals, posterodorsally with almost homogeneous setation slightly longer than tibia is deep, ventral setae very short. Mid femur with rows of anteroventral and posteroventral setae about as long as femur is deep, dorsal setation short. Mid tibia with 4-5 strong anterodorsal setae nearly three times as long as tibia is deep, and with 3-4 much shorter posterodorsals; two irregular ventral rows of setae slightly shorter than tibia is deep, sometimes 1-2 more prominent setae present. Hind femur with anteroventral row of mostly very short setae, less than half as long as femur is deep and with similar but less numerous posteroventrals, several longer but fine

segments very short. Dorsum of abdomen very short setose. Length of body 6.5-7.7 mm, wing 5.9-6.5 mm.

DIFFERENTIAL DIAGNOSIS: *Rhamphomyia* (s. str.) *bohousi* sp. n. belongs to the *R.* (s. str.) *tibialis* Meigen, 1822 complex of species (species completely black setose, with multiserial acrostichals, costal seta absent and male cercus not cranially elongated and without submedian process, see also Barták, 2001: 314). The pilosity of the prosternum of *R. bohousi* is similar as in species of the *R. sulcata* (Meigen, 1804) complex (see discussion under *R. sulcata*), however, male hypopygium is different. The new species differs from all allied species (beside terminalia) by relatively long labrum. The most allied species are undoubtedly *R. haennii* sp. n. and *R. tibialis*. The most striking differences between these three species (beside length of labrum) are as follows: *R. haennii* has at least extreme posterior tip of prosternum bare, the male has nearly all abdominal tergites polished, several long and strong posteroventral setae on hind femur and slightly different terminalia. The legs of the female are without pennate setation. The male of *R. tibialis* has tergite 5 of abdomen almost bare and the female of this species has mid legs and hind femur ventrally without pennation and abdominal tergite 3 with very short hind marginal setae.

DERIVATIO NOMINIS: The species is named after the familiar form of the first name of Dr. Bohuslav Mocek (Muzeum Hradec Králové), the collector of the type series.

***Rhamphomyia* (s. str.) *haennii* sp. n.**

Figs 3-5

HOLOTYPE MALE: France, Col de Tourniol, pasture, 44°55'06"N, 5°11'04"E, 1050 m, 26.v.2006, leg. M. Barták (CULSP).

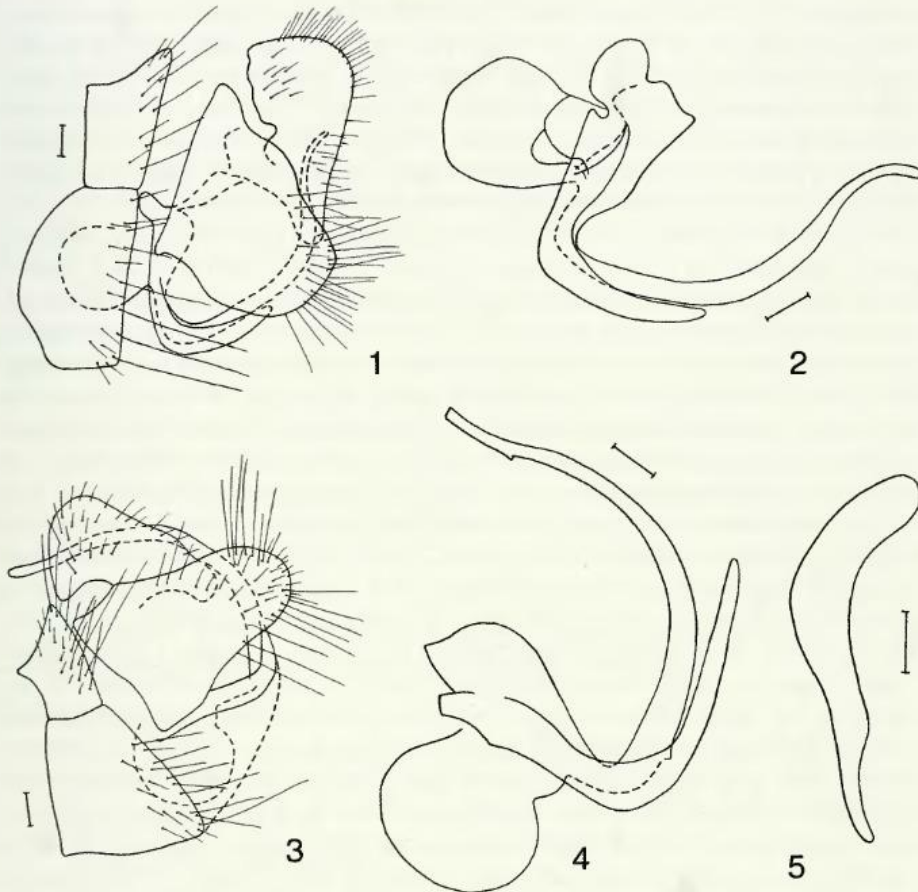
PARATYPES: Same data as in the holotype, 3♂, 3♀ (CULSP). – France, Gard, Dourbies 2 km S, (La Ressaçon), 44°2'54"N, 3°26'34"E, 850-900m, 20-25.v.1985, 1♂, 1♀ (in copula), J.-P. Haenni leg. (MHNN). – France, Col du Cabaretous, 43°32'02"N, 2°45'24"E, edge of wood, 940 m, 26.v.2006, 2♀, Barták leg. (CULSP).

DISTRIBUTION: France.

DATES OF OCCURRENCE: May.

MALE: Eyes holoptic, facets in ventral half of eye smaller than in dorsal half. Frons black, grey microtrichose, bare. Ocellar setae moderately strong, black, nearly half as long as frons, ocellar triangle with 2-4 pairs of additional slightly shorter setae. Face black, grey microtrichose along sides and subshining in central and ventral parts, about 0.35-0.40 mm broad ventrally and equally long, bare. Occiput black, grey microtrichose, rather densely and long black setose. Both basal segments of antennae brown, remainder parts black, ratio of antennal segments = 20: 10-12: 60: 12, the longest setae on basal two segments about 0.30 mm long. Labrum brown, polished, as long as or slightly shorter than head is high. Palpus brown, slightly exceeding beyond clypeus, rather densely covered with setae along whole length (the longest about 0.35 mm long). Genae narrow and polished, clypeus polished. Thorax black, grey microtrichose, mesoscutum rather dark brownish-grey, with three somewhat darker but scarcely visible stripes on the lines of the acrostichal and dorsocentral setae. All thoracic setae black. Chaetotaxy: about 50 setae on proepisternum extending to cranial





FIGS 1-5

*Rhamphomyia* (s. str.) *bohousi* sp. n., male paratype (1-2) and *Rhamphomyia* (s. str.) *haennii* sp. n., male paratype, Col de Tourniol (3-5). (1) Terminalia (macerated), lateral view. Scale 0.1 mm. (2) Phallus, lateral view. Scale 0.1 mm. (3) Terminalia (macerated), lateral view. Scale 0.1 mm. (4) Terminalia (macerated), lateral view. Scale 0.1 mm. (5) Left cercus, posterior view. Scale 0.5 mm.

(basal) half of prosternum, caudal (apical) half to third of prosternum bare; about 10 setae on proepisternal depression; numerous irregularly 5 serial, fine and short acrostichals (nearly 0.25 mm long in middle), separated by very narrow bare space from similar and multiserial dorsocentrals (ending in 1 strong and several fine prescutellars), entire presutural area of mesoscutum lateral of dorsocentrals densely covered with similar setae, both intrahumeral and posthumeral not prominent; postpronotal seta scarcely differentiated from surrounding postpronotal setae; 4 notopleurals (notopleural depression densely setose on anterior part); a row of 4-6 supraalars in rather caudal position, and several rather long setae on prealar area; 1 long and several small postalars; 6-8 long and strong and 0-4 additional shorter scutellars; laterotergite

(metapleura) with black setae. Coxae concolorous with pleura, microtrichose, black setose. Legs brown, all femora (fore ones only slightly) and tibiae polished to sub-polished. Legs black setose. One long seta present in comb at tip of hind tibia. Fore femur with anteroventral and posteroventral setae nearly half as long as femur is deep in distal half (shorter in basal half of femur). Fore tibia with several anterodorsal setae and denser posterodorsal setation nearly 1.5 times as long as tibia is deep, ventral setae very short. Mid femur with rows of anteroventral and posteroventral spine-like setae (10-25 setae in each row, anteroventrals more numerous) at most half as long as femur is deep, otherwise very short and sparsely setose. Mid tibia with very short anteroventral and posteroventral setae (less than half as long as tibia is deep), and with 5 anterodorsal and 4 posterodorsal setae nearly 3 times as long as tibia is deep (preapical anterodorsal long and posterodorsal short), otherwise very short and sparsely setose. Hind femur with anteroventral row of setae nearly  $2/3$  as long as femur is deep and with similar but less numerous and slightly longer posteroventrals, other setae short (anterodorsals not prominent). Hind tibia slightly swollen distally, with 6-8 pairs of anterodorsal and posterodorsal setae, the longest slightly longer than tibia is deep, ventral setae short. Basal tarsomeres of fore and mid legs slender and short setose, T1l: B1l = 2.1-2.3, B1l: B1w = 6.1-8.3, T2l: B2l = 2.6-2.7, B2l: B2w = 4.9-6.3. Basal tarsomere of hind leg slightly narrower than tip of tibia, with 3-4 dorsal setae slightly longer than this tarsomere is deep, ventrally with short spine-like setae, T3l: B3l = 2.0-2.1, B3l: B3w = 4.6-5.3. Wing brown, stigma darker, veins brown, anal vein ( $A_1$ ) complete. Costal seta absent, axillary angle sharply acute.  $M2/D = 1.4-1.6$ ,  $M3/Db = 2.0-2.7$ ,  $lw: ww = 2.6-3.0$ . Halter yellow, calypter brownish-yellow with dark fringes. Abdomen brownish-black, all tergites (except tergite 1 and basal part of tergite 2) polished, sternites light grey microtrichose, greater part of cercus and whole of epandrium polished. All abdominal setae dark. Hind marginal setae on sides of tergites 2-4 slightly longer and those on tergite 5 slightly shorter than corresponding segments, those on tergites 6-7 short, discal setae subequal; dorsum of tergites with very short setae; sternite 1 bare or with several setae submedially. Terminalia as in Figs 3-5: cercus simple, with very small projection in ventral third; epandrium at apex with long setae both dorsally and ventrally (short setose at extreme tip); hypandrium long; phallus simply bowed, slender, with very small subapical tooth dorsally. Length of body 5.8-6.9 mm, wing 5.9-7.0 mm.

**FEMALE:** Similar to male but with the following exceptions. Eyes broadly dichoptic, all facets subequal in size. Frons 0.30-0.40 mm long and 0.25-0.30 mm broad, with about 10 setae on each side. Ocellar setae about half as long as frons. Face subequally sized as frons. Labrum 1.3-1.4 times as long as head is high. Occiput similarly setose as in male, but setae shorter, no bare median area (contrary to females of several other species of *Rhamphomyia* s. str.). Also thorax similarly setose as in male, but setae slightly shorter (both acrostichals and dorsocentrals about 0.12 mm long). Fore femur, fore tibia and mid tibia very short setose, without prominent setae (the longest setae less than half as long as particular parts of legs are deep). Mid femur with very short but distinct anteroventral and posteroventral spine-like setae. Hind femur with 7-8 short anteroventrals (most of them in distal half), posteroventrals absent, dorsal setae about half as long as femur is deep (and indistinctly flattened). Hind tibia



slender, with several very short but distinct dorsal setae, otherwise very short setose. Basal tarsomeres of all legs slender and short setose, T1l: B1l = 2.0-2.1, B1l: B1w = 6.6-7.3, T2l: B2l = 2.0-2.1, B2l: B2w = 6.0-6.4, T3l: B3l = 2.1-2.3, B3l: B3w = 5.8-6.7. M2/D = 1.4-1.5, M3/Db = 2.5-3.0, lw: ww = 2.6-2.8. Abdomen black, at least segments 3-6 very light (almost silvery) grey microtrichose, otherwise grey microtrichose, terminal segments brown microtrichose. Lateral setae on segment 2 about 0.30 mm long, those on segment 3 about 0.15 mm long and those on remainder segments very short (0.05 mm), dorsum of abdomen almost bare. Length of body 6.0-8.0 mm, wing 5.4-8.1 mm.

DIFFERENTIAL DIAGNOSIS: *Rhamphomyia* (s. str.) *haennii* sp. n. belongs to the *R. tibialis* (s. str.) complex of species (see discussion under *R. bohousi* sp. n.). The new species is very similar to *R. tibialis*, however, male of *R. tibialis* has tergite 5 of abdomen almost bare and female of this species has broadened hind tibia with short dorsal pennate setation. Many characters of the female of *R. haennii* are common with (circumboreal) *R. nigrita* (Zetterstedt, 1838) (e.g. multiserial acrostichals, complete anal vein, dark wing, short setose legs, setose proepisternal depression, yellow halter, lacking costal seta), however, the latter species differs in having microtrichose legs, abdomen not silvery, ventral part of hind femur covered with very short (not spine-like) setae only and it belongs to the *R.* (s. str.) *plumipes* (Meigen, 1804) complex of species.

DERIVATIO NOMINIS: the species is named in honour of our colleague and the collector of part of the type series, Jean-Paul Haenni (Neuchâtel).

***Rhamphomyia* (s. str.) *iranica* sp. n.**

Figs 6, 7

HOLOTYPE MALE: Iran, loc. No 66, Damavand, 35°56'N, 52°08'E, 4200 m, 22.vii.1970, leg. J. Moucha (NMP).

DISTRIBUTION: Iran.

DATES OF OCCURRENCE: July.

MALE: Eyes holoptic, facets in ventral half of eye much smaller than in dorsal half. Frons black, light grey microtrichose, bare. Ocellar setae black and fine, half as long as frons, accompanied with 2-3 pairs of slightly shorter setae. Face black, light grey microtrichose dorsally and polished in ventralmost portion, about 0.30? mm broad ventrally and subequally long, bare. Occiput black, light grey microtrichose, fine black setose, postocular row incomplete. Both basal segments of antennae dark reddish-brown, remainder parts black, ratio of antennal segments = 15: 12: 45: 12, the longest setae on basal two segments about 0.25 mm long. Labrum brownish-black, polished, slightly shorter than head is high. Palpus brown and rather short, covered with moderately long, dense setae along the whole length (the longest about 0.35 mm long). Genae narrow and polished, clypeus mostly polished. Thorax black, light grey microtrichose, with scarcely visible brownish stripes on the lines of the acrostichal and dorsocentral setae. All thoracic setae black. Chaetotaxy: almost 30 setae on proepisternum; about 10 setae on proepisternal depression; prosternum bare; more than 30? (posterior ones damaged by a pin) irregularly triserial, fairly fine acrostichals nearly 0.30 mm long; numerous multiserial dorsocentrals (also, numerous setae laterad of dorsocentrals covering entire presutural area) ending in 3 stronger prescutellars;

intra humeral scarcely distinguishable from numerous setae; a single posthumeral distinctly stronger (but not much longer) than nearby setae; 1-2 scarcely prominent postpronotal setae; 3 strong notopleurals and about 10 long setae on anterior part of notopleura; 2-3 strong supraalars and about 15 setae on prealar area; 1 long and 2 small postalars; 4 subequally long and strong scutellars; laterotergite (metapleura) with black setae. Coxae concolorous with pleura, black setose. Legs brown, microtrichose (mid femur polished anteriorly and hind femur polished except ventrally), black setose. One long seta present in comb at tip of hind tibia. Fore femur with rows of fine anteroventral and posteroventral setae about as long as femur is deep, dorsal setae short. Fore tibia with several posterodorsal setae about 1.5 times as long as tibia is deep, remaining posterodorsal setae slightly shorter, anterodorsal surface bare, ventral setation very short. Mid femur with regular anteroventral and irregular posteroventral rows of short and fine setae about half as long as femur is deep, dorsal setae short. Mid tibia with 3-4 anterodorsal and 3-4 posterodorsal setae nearly twice as long as tibia is deep, anteroventral setae short, 2-3 setae in posteroventral position about as long as tibia is deep. Hind femur with several irregularly arranged anteroventral setae in basal third of femur about half as long as femur is deep (in distal part of femur fine and short), several slightly longer posteroventral setae in basal half of femur (distal posteroventral part of femur bare), dorsal setae short, ventral "pilosity" developed throughout length of hind femur. Hind tibia slightly swollen and flattened, with 5-8 pairs of anterodorsal and posterodorsal setae about as long as tibia is deep, ventral setae short. Basal tarsomeres of both fore and mid legs slender and short setose, mid basitarsus with short ventral spine-like setae, T1l: B1l = 2.5, B1l: B1w = 6.8-6.9, T2l: B2l = 2.6-2.7, B2l: B2w = 5.0. Basal tarsomere of hind leg slightly swollen, with several dorsal setae somewhat longer than this tarsomere is deep, T3l: B3l = 2.6, B3l: B3w = 3.8-3.9. Wing hyaline, stigma light brownish, veins brown, anal vein ( $A_1$ ) complete. Costal seta absent, axillary angle sharply acute. M2/D = 1.5-1.6, M3/Db = 3.1, lw: ww = 2.8. Halter yellow, calypter brownish-yellow with dark fringes. Abdomen black, light grey microtrichose, genital lamellae subpolished. All abdominal setae dark. Hind marginal setae on sides of tergites at least as long as corresponding segments, discal setae slightly shorter than marginals; dorsum of tergites with short setae; sternite 1 bare. Terminalia (Figs 6-7) simple: cercus about twice as long as broad; epandrium broadly ovate and short setose; phallus with a small subapical tooth dorsally. Length of body 4.5 mm, wing 5.2 mm.

FEMALE: Unknown.

DIFFERENTIAL DIAGNOSIS: *Rhamphomyia* (s. str.) *iranica* sp. n. belongs to the *R.* (s. str.) *tibialis* complex of species. However, superficially it resembles species of *R. ignobilis* Zetterstedt, 1859 complex (differing from *R. tibialis* complex only in biserial acrostichals), especially *R. hungarica* (Wéber, 1969) and *R. nigromaculata* von Roser, 1840. However, *R. hungarica* has peculiarly elongated hind "knee" and *R. nigromaculata* has abdomen dark brown viewed from above with contrastingly silvery sides, hind femur strongly setose anteroventrally throughout its length, acrostichals regularly biserial, epandrium narrowly triangular in shape and it is a smaller species (wing about 4 mm). Female remains unknown.

DERIVATIO NOMINIS: The species is named after the country of the type locality.



***Rhamphomyia* (s. str.) *sulcanda* sp. n.**

Figs 8-11

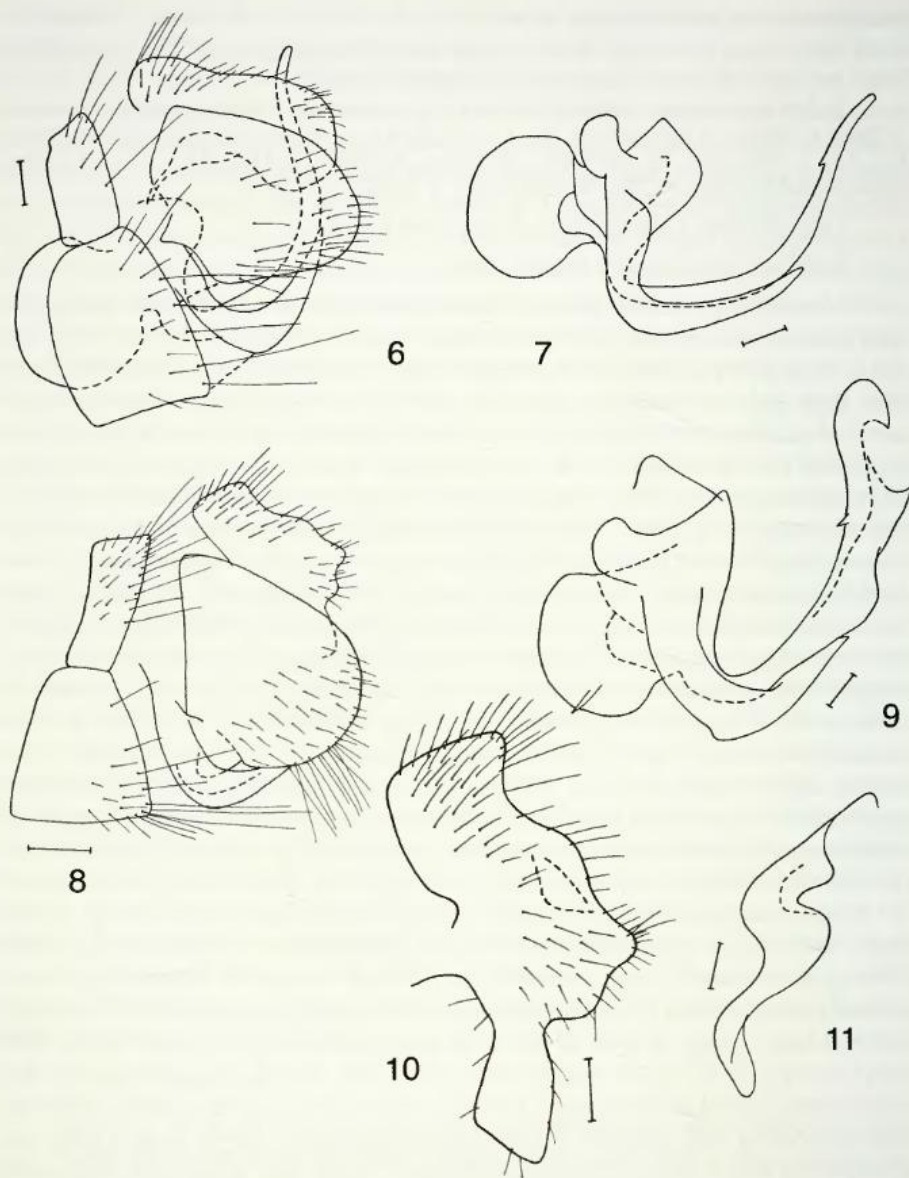
HOLOTYPE MALE: Spain, St. Sylvain, 28.iii.1911, "*sulcanda* Coll.", "*R. sulcanda* det. Collin '21", "Ex.Coll. Hervé-Basin", "Coll Oldenberg" (DEI).

PARATYPES: France: Trélazé, 30.iii.1911, 1 ♂ (UMO). – Switzerland: GE, Bernex, 5.iv.2003, B. Merz and Eggenberger leg, 1 ♂. – GE, 500 m, Bernex-Signal, 23.iii.2002, leg B. Merz, 4 ♂. – GE, 360m, Russin, Teppes de Biolay, 10.iv.1999, B. Merz leg, 1 ♂. – GE, 450m, Sézenove-Maisonettes, 2.iv.1999, B. Merz leg, 1 ♂ (CULSP, MHNG).

DISTRIBUTION: France, Spain, Switzerland.

DATES OF OCCURRENCE: March - April.

MALE: Eyes holoptic, facets in ventral third of eye smaller than in dorsal part. Frons brownish-black, light grey microtrichose, bare. Ocellar setae fine, hair-like, one third as long as frons, black, ocellar triangle with 4-6 additional setae. Face brownish-black, light grey microtrichose, 0.40-0.50 mm broad ventrally and subequally long, bare. Occiput brownish-black, grey microtrichose, black setose, bare in middle part just behind eyes, setae fairly fine, long and dense. Both basal segments of antennae brown, remainder parts black, ratio of antennal segments = 22: 13: 62: 11, setae on basal two segments slightly longer than their antennomeres. Labrum brown, polished, about as long as head is high. Palpus brown, not exceeding beyond clypeus, with several setae along whole length. Genae narrow and microtrichose, clypeus polished. Thorax brownish-black, light grey microtrichose, mesoscutum with brown stripes on the lines of the acrostichal and dorsocentral setae. All thoracic setae black. Chaetotaxy: proepisternum with about 20 and proepisternal depression with 10 setae, prosternum setose; about 40 irregularly 2-3 serial, very fine acrostichals twice as long as distance between rows of acrostichals and dorsocentrals; numerous multiserial, similarly long and fine dorsocentrals ending in 1 strong and several finer prescutellars, entire pre-sutural area of mesoscutum laterally of dorsocentrals densely covered with setae; both intrahumeral and posthumeral not prominent; postpronotal seta scarcely differentiated; 3 notopleurals (numerous long setae on anterior part of notopleura); 1 supraalar and 10-15 rather long setae covering prealar area; 1 long and 1 small postalar; 10-12 scutellars; laterotergite (metapleura) with black setae. Coxae brownish-black, microtrichose, black setose. Legs brownish-black, black setose, all femora and tibiae polished to subpolished. One long seta present in comb at tip of hind tibia. Fore femur with fine setae nearly as long as femur is deep (posteroventrals about half as long except subapicals which are longer). Fore tibia with several anterodorsal setae and denser posterodorsal setation nearly twice as long as tibia is deep, ventral setae very short. Mid femur with two rows of spine-like setae ventrally (10-20 setae in each row, anteroventral row usually more numerous) about half as long as femur is deep (setae in posteroventral row sometimes slightly longer), otherwise very short and sparsely setose. Mid tibia with anteroventral row of setae nearly as long as tibia is deep (sometimes this row consists of short setae only), posteroventral row forming by fewer but longer setae, 4-6 pairs of anterodorsal and posterodorsal setae nearly 3 times as long as tibia is deep, otherwise very short and sparsely setose. Hind femur with anteroventral row of setae half as long as femur is deep, posteroventral row complete, setae longer than corresponding anteroventrals except in distal fourth (where anteroventrals are slightly longer than posteroventrals). Hind tibia swollen distally, with 8-10 pairs of



FIGS 6-11

*Rhamphomyia* (s. str.) *iranica* sp. n., male holotype (6-7) and *Rhamphomyia* (s. str.) *sulcanda* sp. n., male paratype, Bernex (8-11). (6) Terminalia (macrated), lateral view. Scale 0.1 mm. (7) Phallus, lateral view. Scale 0.1 mm. (8) Terminalia (macrated), lateral view. Scale 0.1 mm. (9) Phallus, lateral view. Scale 0.1 mm. (10) Cercus, lateral view. Scale 0.1 mm. (11) Left cercus, caudal view. Scale 0.1 mm.



anterodorsal and posterodorsal setae, the longest setae slightly longer than tibia is deep, ventral setae short. Basal tarsomere of fore leg slender and short setose, only 1-2 dorsal setae (beside preapicals) slightly longer than this tarsomere is deep, ventral spine-like setae not prominent, T1l: B1l = 2.3-2.7, B1l: B1w = 4.5-5.5. Basal tarsomere of mid leg short setose, T2l: B2l = 3.0-3.4, B2l: B2w = 3.9-5.0. Basal tarsomere of hind leg swollen (as tip of tibia), dorsal setae slightly longer than this tarsomere is deep, T3l: B3l = 1.9-2.3, B3l: B3w = 3.7-4.8. Wing yellowish, stigma brown, veins brown, anal vein ( $A_1$ ) complete. Costal seta absent, axillary angle sharply acute.  $M2/D = 1.3-1.4$ ,  $M3/Db = 2.1-2.4$ ,  $lw: ww = 2.8-3.2$ . Halter yellow, calypter yellow with fine dark fringes. Abdomen brownish-black, light grey microtrichose, last tergites sometimes slightly subpolished in dorsal view, dorsal part of epandrium polished. All abdominal setae dark. Hind marginal setae on sides of tergites 2-5 nearly as long as corresponding segments (discal setae subequal), those on tergites 6-7 half as long as corresponding segments (discal setae shorter); dorsum of tergites with very short setae. Terminalia as in Figs 8-11: cercus with two projections in caudal view, dorsal one smaller than ventral one; phallus broadened apically (as in *R. sulcata*). Length of body 5.0-7.0 mm, wing 5.8-6.7 mm.

**FEMALE:** Unknown. There are several females labelled "*sulcanda*" in UMO. However, they represent at least two different species and none is provided with a locality label corresponding to one of the males of the new species.

**DIFFERENTIAL DIAGNOSIS:** *Rhamphomyia* (s. str.) *sulcanda* sp. n. belongs to the *R.* (s. str.) *sulcata* complex of species (species with prosternum entirely setose, acrostichals mostly multiserial, both costal and posthumeral seta absent and male cercus with one to several rounded projections dorsally but not protruding above abdomen, see also Barták, 2001: 323). The male differs from all species of this complex in having microtrichose sides of abdominal segments 3-4 and the dorsal process of cercus smaller than the ventral one (in contrast, in all other species of the complex except *R. teberdana* Barták in Barták & Syrovátka, 1983 the ventral process is smaller than the dorsal one). Moreover, the combination of complete row of posteroventral setae on the hind femur and a very light wing is very rare in this complex of species (similar conditions occur in *R. filipjevi* Frey, 1950, another species of *R. sulcata* complex).

**DERIVATIO NOMINIS:** J. E. Collin's manuscript name was used.

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