

West-Paleartic species of the genus *Neurigona* Rondani (Diptera: Dolichopodidae)

Западно-палеарктические виды рода *Neurigona* Rondani (Diptera: Dolichopodidae)

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KEY WORDS: Diptera, Dolichopodidae, Palearctic region, *Neurigona*, new species, new synonym, key.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Dolichopodidae, Палеарктика, *Neurigona*, новые виды, новый синоним, определитель.

ABSTRACT. West-Paleartic species of the genus *Neurigona* Rondani, 1856 are reviewed. New species *N. solodovnikovi* Grichanov **sp.n.** from Morocco and *N. meironensis* Grichanov **sp.n.** from Israel are described and illustrated. *N. verrichteræ* Negrobov et Fursov, 1988 is placed in synonymy to *N. suturalis* (Fallén, 1823) (**syn.n.**). A check list and revised key to West-Paleartic species of this genus are provided.

РЕЗЮМЕ. Составлен обзор западно-палеарктических видов рода *Neurigona* Rondani, 1856. Даны описания и фотографии *N. solodovnikovi* Grichanov **sp.n.** из Марокко и *N. meironensis* Grichanov **sp.n.** из Израиля. *N. verrichteræ* Negrobov et Fursov, 1988 сведён в синонимы к *N. suturalis* (Fallén, 1823) (**syn.n.**). Приведён список и определитель западно-палеарктических видов рода.

Introduction

The genus *Neurigona* Rondani, 1856 (= *Saucropus* Loew, 1857) numbers 153 species distributed worldwide [Wang et al., 2007], but being poorly represented in Afrotropical and Australian Regions. Grichanov [2000, 2006] excluded Afrotropical *Saucropus cyane-scens* Loew, 1858 and *S. univittatus* Loew, 1858 from the genus and doubted a record of Australasian *N. angulata* De Meijere, 1916 on Seychelles (female only). The genus seems to be replaced in Afrotropics with the related *Tenuopus* Curran, 1924; nevertheless, the author of this paper saw a female of true *Neurigona* collected from central Africa. The last key to Palearctic species of the genus was published by Negrobov and Fursov [1988]. Later two species were described from West Palearctic [Negrobov & Tsurikov, 1990; Pärvu, 1996]. Recently many species have been described or recorded from China, and Wang et al. [2007] have compiled a key to males of 22 species of the genus from

Chinese mainland, with the exception of Palearctic *N. zhangae* Wang, Yang and Grootaert, 2006. Many species are known only from their type localities, while others are confined to certain territories of the Palearctic Region.

Treating collections of the Natural History Museum of Denmark (ZMUC) and the Zoological Museum of Tel-Aviv University, Israel (TAU), I have found new material on the genus *Neurigona*. Descriptions of two new species from Israel and Morocco are given in this paper. A check list and revised key to West-Paleartic species of the genus is here provided. Other material has been examined in the collection of the Zoological Institute, St. Petersburg (ZIN). The specimens were studied and illustrated with ZEISS Discovery V-12 stereomicroscope and AxioCam MRc5 camera. Morphological terminology follows Grichanov [2007] and Cumming and Wood [2009]. The relative lengths of the podomeres should be regarded as representative ratios and not measurements. Body length is measured from the base of the antenna to the tip of epandrium. Wing length is measured from the base to the wing apex. Male genitalia were macerated in 10% KOH. Figures showing the male genitalia in lateral view are oriented as they appear on the intact specimen (rotated 180° and lateroflexed to the right), with the morphologically ventral surface of the genitalia facing up, dorsal surface down, anterior end facing right and posterior end facing left. Distribution of known species follows those of Negrobov [1991] and Grichanov [2006, 2007].

Systematics

Genus *Neurigona* Rondani

Neurigona Rondani, 1856: 142

Saucropus Loew, 1857: 41

REMARK. See diagnosis and discussion in Negrobov and Fursov [1988] and Naglis [2003]. Included species from West Palearctic region:

abdominalis (Fallén, 1823: 21)[*Dolichopus*] [Bezzi, 1903: 292].

TYPE LOCALITY: not given [Sweden].

DISTRIBUTION: Czech, Denmark, Finland, Germany, Latvia, Lithuania, Norway, Poland, Russia: Karelia, Krasnodar, St.Petersburg, Pskov; Sweden, UK.

biflexa Strobl, in Czerny & Strobl, 1909: 183.

TYPE LOCALITY: Spain: "Algeciras, Fuente Teja bei Escorial".

DISTRIBUTION: Austria, Bulgaria, France, UK, Poland, Portugal, Spain.

cilipes (Oldenberg, 1904: 71)[*Saucropus*].

TYPE LOCALITY: Italy: "Macugnaga auf der Ostseite de Monte Rosa".

DISTRIBUTION: Germany, Italy, Romania, Slovakia, Switzerland.

dobrogica Pârvu, 1996: 265.

TYPE LOCALITY: Romania: Constanța.

DISTRIBUTION: Romania.

erichsoni (Zetterstedt, 1843: 613)[*Dolichopus*] [Schiner, in: Redtenbacher & Schiner, 1862: 184].*inaequalipes* (Zetterstedt, 1843: 613) [*Argyra*] [Bezzi, 1903: 292]

TYPE LOCALITY: Sweden: "Scania: Lund, Silfakra, Röstanga, Lindholmen, Esperöd, Ostrogothia ad Gusum, Gottenvik, Jonsberg, Gottlandia ad Nähr, insula Furillen".

DISTRIBUTION: Austria, Belgium, Czech, Denmark, Estonia, France, Germany, Hungary, Iran, Netherlands, Norway, Poland, Romania, Russia: Adygea, Alania, Krasnodar, Moscow; Sweden, Switzerland, Ukraine: Cherkasy, Kharkiv; "Yugoslavia".

febrilata Negrobov et Fursov, 1988: 406.

TYPE LOCALITY: Krasnodar Terr., Caucasian Reserve, Aishkha pass.

DISTRIBUTION: S Russia: Krasnodar.

helva Negrobov et Tsurikov, 1990: 35.

TYPE LOCALITY: Krasnodar Terr., Khosta env.

DISTRIBUTION: S Russia: Krasnodar.

lineata (Oldenberg, 1904: 73)[*Saucropus*].

TYPE LOCALITY: Germany: Worlitzer Forst (Anhalt-Dessau).

DISTRIBUTION: Belgium, Germany, Romania, Russia: Ryazan.

longipes Becker, 1918: 309[*Neurogona*].

TYPE LOCALITY: Russia: "Ural".

DISTRIBUTION: Russia: Ural.

meironensis Grichanov, **sp.n.**

TYPE LOCALITY: Israel: Mt. Meiron.

DISTRIBUTION: Israel.

nubifera (Loew, 1869: 302)[*Saucropus*] [Strobl, 1898: 422].

TYPE LOCALITY: "Griechenland".

DISTRIBUTION: Greece; "Yugoslavia".

pallida (Fallén, 1823: 21)[*Dolichopus*] [Loew, 1857: 41].

TYPE LOCALITY: Sweden: Scania [=Skane].

DISTRIBUTION: Austria, Belarus, Belgium, Czech, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Russia: Karelia, Karachai-Cherkessia, Lipetsk, St.Petersburg, Voronezh; E Russia: Krasnoyarsk, Orenburg, Tomsk; Slovakia, Sweden, Switzerland, UK, Ukraine: Crimea, Kharkiv.

pseudolongipes Negrobov, 1987: 414.

TYPE LOCALITY: Russia: Krasnodar Terr., Caucasian Reserve, Pshekish Mt.

DISTRIBUTION: Abkhazia; S Russia: Adygea, Karachai-Cherkessia, Krasnodar.

punctifera Becker, 1907: 103.

TYPE LOCALITY: Algeria: Constantine.

DISTRIBUTION: Algeria.

quadrifasciata (Fabricius, 1781: 448)[*Musca*] [Rondani, 1856: 142].*quadrivittata* (Macquart, 1827: 30) [*Porphyrops*]

TYPE LOCALITY: Germany.

DISTRIBUTION: Austria; Belarus: Minsk; Belgium, Czech, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Russia: Karelia, St.Petersburg, Pskov, Tambov, Voronezh; E Russia: Urals, Krasnoyarsk, Baikal; Slovakia, Sweden, Switzerland; UK, Ukraine: Kiev.

semilata Negrobov et Fursov, 1988: 407.

TYPE LOCALITY: Russia: Krasnodar Terr., Caucasian Reserve, Guzeripl.

DISTRIBUTION: S Russia: Adygea, Krasnodar.

solodovnikovi Grichanov, **sp.n.**

TYPE LOCALITY: Morocco: 40 km S Larache.

DISTRIBUTION: Morocco.

subcilipes Negrobov et Fursov, 1988: 409.

TYPE LOCALITY: Russia: Krasnodar Terr., Caucasian Reserve, Tegenya cordon.

DISTRIBUTION: S Russia: Adygea, Krasnodar.

suturalis (Fallén, 1823: 21)[*Dolichopus*] [Loew, 1857: 41].*verrichteræ* Negrobov et Fursov, 1988: 411, **syn. nov.**

TYPE LOCALITY: Sweden: "Esperod".

DISTRIBUTION: Austria, Belgium, Czech, Denmark, Finland, France, Georgia, Germany, Hungary, Italy, Netherlands, Norway, Poland, Romania; Russia: Krasnodar, Krasnoyarsk, St.Petersburg; Slovakia, Sweden, Switzerland, UK, "Yugoslavia".

unicolor Oldenberg, 1916: 190[*Neurogona*].

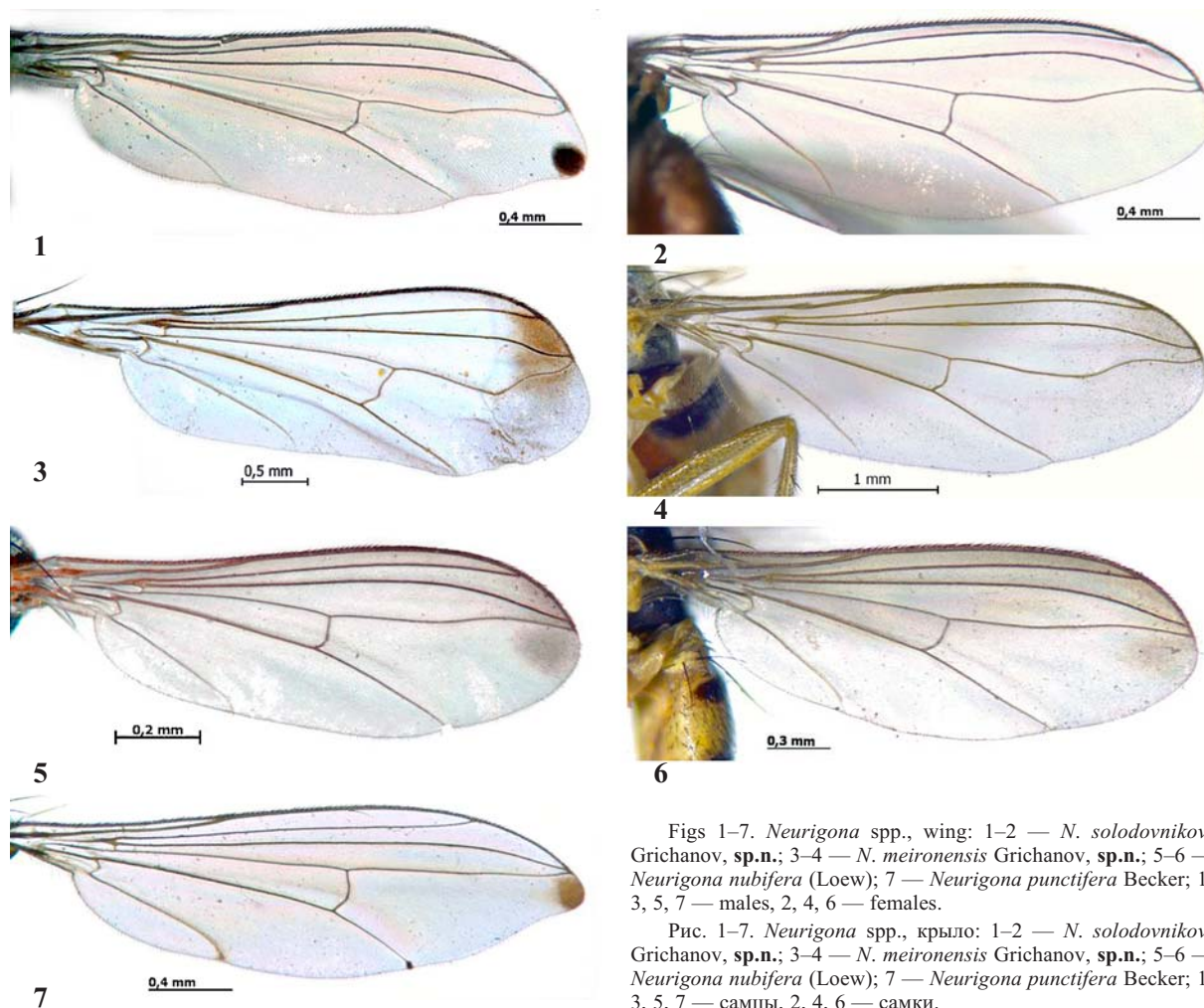
TYPE LOCALITY: Romania: Herkulesbad [= Baile Herkulane].

DISTRIBUTION: Romania.

uralensis Becker, 1918: 311[*Neurogona*].

TYPE LOCALITY: Russia: "Ural".

DISTRIBUTION: Russia: Ural.



Figs 1–7. *Neurigona* spp., wing: 1–2 — *N. solodovnikovi* Grichanov, **sp.n.**; 3–4 — *N. meironensis* Grichanov, **sp.n.**; 5–6 — *Neurigona nubifera* (Loew); 7 — *Neurigona punctifera* Becker; 1, 3, 5, 7 — males, 2, 4, 6 — females.

Рис. 1–7. *Neurigona* spp., крыло: 1–2 — *N. solodovnikovi* Grichanov, **sp.n.**; 3–4 — *N. meironensis* Grichanov, **sp.n.**; 5–6 — *Neurigona nubifera* (Loew); 7 — *Neurigona punctifera* Becker; 1, 3, 5, 7 — самцы, 2, 4, 6 — самки.

***Neurigona solodovnikovi* Grichanov, sp.n.**

Figs 1–2, 8, 10, 14

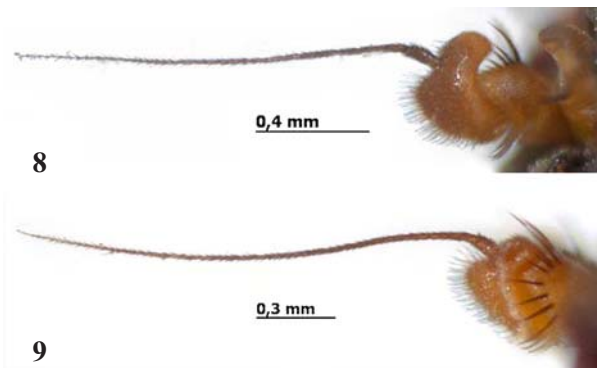
TYPE MATERIAL. Holotype ♂, **Morocco**: 40 km S Larache, 0–20 m, 23–24.IV.1989 [ZMUC]. Paratypes: 2♂♂, 3♀♀, the same locality as holotype [ZMUC].

DESCRIPTION. *Male*. Length (mm): body 4.0, wing 4.0, antenna 0.9, hypopygium 0.7. Head metallic green with pale grey pollen; face black with dense pale pollen. Face slightly narrowing downward, eyes narrowly separated on middle portion of face. One pair of ocellars black and strong, 1 pair of verticals black and strong, 1 pair of postverticals white, long and strong, postverticals not longer than verticals; postocular bristles entirely pale. Antenna brownish yellow; postpedicel about as long as wide; stylus brown, middorsal, 4 x longer than postpedicel, with short basal segment. Proboscis yellowish brown with pale hairs; palpus yellow with pale hairs.

Thorax: dark metallic green with pale grey pollen; humerus with pale yellow spot; scutellum dark yellow with small basal black spot in middle; metapleuron pale yellow. Hairs and bristles on thorax mainly black. 6 long strong dorsocentrals, 9–10 paired acrostichals, 1 long humeral bristle and 1 short adjacent pale hair, 1–2 sutural, 2 notopleural, 2 supraalar bristles. Propleuron with 1–2 pale hairs on upper portion (proepimeron) and 1 yellow bristle on lower portion

(proepisternum). Scutellum with 2 pairs of bristles, apical pair long and strong, but basal pair short and hair-like.

Legs: yellow; coxae yellow; fore tarsus brown-black from middle of basitarsus; mid and hind tarsomeres 2–5 brownish to brown. Hairs and bristles on legs mainly black. Fore coxa with pale hairs and 3–4 yellow to brown-black bristles on antero-apical portion; mid coxa with black hairs and 2–3 black anterior and apical bristles; hind coxa with 1 black outer bristle at middle. Fore and mid femora with microscopic pale hairs ventrally. Fore tibia devoid of bristles, with mainly pale setulae except 2 rows of black setulae on dorsal surface; mid tibia with 2 anterodorsal, 2 posterodorsal, 2–3 anteroventral, 2 posteroventral, 3 apical black bristles; hind tibia with 3 anterodorsal, 3 posterodorsal, 3 short ventral setae, apically with yellow comb of hairs and 3 black bristles. Fore tarsus with pale short ventral cilia on segments 2–4; tarsomeres 4–5 flattened ventrally; fore segment 4 with basal half somewhat swollen; tarsomere 5 with short black claws (about half as long as tarsomere 5) and 2 long apicodorsal setae (longer than tarsomere 5). Mid tarsomere 1 shorter than tibia, with 6–7 short ventrals. Hind tarsomeres 1–3 each with short ventrals; hind tarsomere 1 apically with yellow comb of hairs. Fore leg length ratio (from tibia to tarsomere 5): 64/37/10/8/7/5, mid leg: 83/64/23/16/9/6, hind leg: 110/30/35/16/12/8.



Figs 8–9. *Neurigona* spp., antenna: 8 — *N. solodovnikovi* Grichanov, **sp.n.**; 9 — *N. meironensis* Grichanov, **sp.n.**

Рис. 8–9. *Neurigona* spp., усик: 8 — *N. solodovnikovi* Grichanov, **sp.n.**; 9 — *N. meironensis* Grichanov, **sp.n.**

Wing: hyaline, with apical projection bearing deep black round spot as figured, with apical half distinctly broader than basal half, veins brown. Apical part of vein R_{4+5} convex anteriorly, vein M_{1+2} weakly sinuate at middle of distal part and at wing margin, cell R_{4+5} at widest point 2 times as wide as distance between tips of R_{4+5} and M ; M joining costa far before wing apex; Ratio of cross-vein *m-cu* to distal part of CuA_1 , 10/34. Anal vein distinct, almost reaching to wing margin; anal lobe present; anal angle right. Calypter yellow, with pale cilia. Halter yellow.

Abdomen: brownish yellow with yellow pollen; tergite 1 wholly yellow; tergites 2–3 mainly yellow, brown basolaterally; tergites 4–5 brown; hypopygium black. Abdominal segment 5 with black ventral projection. Hairs and bristles on tergites chiefly black, ventrum and segments 5–8 with pale hairs.

Genitalia: epandrium as long as wide; 2 epandrial processes apicoventrally, each bearing apical seta. Surstylus with wide dorsal and ventral lobes; ventral lobe with wide process ending with a hook and bearing a long flattened apical seta. Cercus somewhat round, white, bearing short white hairs.

Female. Body length 3.5 mm, wing length 3.8 mm. Similar to male except lacking male secondary sexual characters. Eyes wider separated on face; upper face about as wide as postpedicel height. Wing: wholly hyaline, simple; with middle portion broader than apical portion, veins brown; 4th section of costa about 5 times as long as 5th one. Fore coxa with 3–4 black bristles on antero-apical portion; fore tibia with 1 anterodorsal at basal 1/4, with black setulae except ventral surface at apex; fore tarsus simple, brownish to brown from tip of basitarsus. Fore leg length ratio (from tibia to tarsomere 5): 63/36/19/11/8/6. **Abdomen:** with segment 1 yellow; segments 2–5 orange-yellow. Tergite 9+10 long, narrow, brownish at base, black at apex, bifurcated, with long brownish hairs.

DIAGNOSIS. Very close to *N. punctifera*. Wing with apical projection bearing deep black round spot; M_{1+2} sinuate; wing vein CuA_1 without punctiform thickening at wing margin. Fore tarsomere 4 with basal half somewhat swollen and with dense pale hairs; fore tarsomere 5 with one elongated claw. *N. punctifera* male has less distinct brown spot at wing apex; straight M_{1+2} ; punctiform thickening at extreme apex of CuA_1 , different fore leg and hypopygium morphology (Figs 7, 11, 15). Female of *N. solodovnikovi* has hyaline wing, being probably very close to female of *N. punctifera* (not studied).

ETYMOLOGY. This species named after the Russian entomologist Dr. Alexey Solodovnikov.

Neurigona meironensis Grichanov, **sp.n.**
(Figs 3–4, 9, 12, 16)

TYPE MATERIAL. Holotype ♂, **Israel:** Mt. Meiron, 17.V.1976, A. Freidberg [TAU]. Paratypes: 1♀, the same locality as holotype; 1♂, **Israel:** Mt. Meiron (900 m), 28.V.1981, A. Freidberg; 1♀, **Israel:** Mt. Meiron, 900 m, 24.V.1978, A. Freidberg; 1♀, **Israel:** Upper N. Keziv, 3.V.1983, A. Freidberg [TAU].

DESCRIPTION. *Male.* Length (mm): body 5.0–5.5, wing 5.0, antenna 1.0, hypopygium 0.9. Head metallic green with pale grey pollen; face black with dense pale pollen. Face very narrow, nearly parallel-sided. One pair of ocellars black and strong, 1 pair of verticals black and strong, 1 pair of postverticals white, long and strong, postverticals shorter than verticals; postocular bristles entirely pale. Antenna yellow; postpedicel about as long as wide; stylus brown, middorsal, 5 x longer than postpedicel, with short basal segment. Proboscis dirty yellow with pale hairs; palpus yellow with pale hairs.

Thorax: dark metallic green with pale grey pollen; scutellum yellow to light-brown with more or less small basal black spot at suture; metapleuron dirty yellow to dark-brown. Hairs and bristles on thorax mainly black. 6 long strong dorsocentrals, 9–10 paired acrostichals, 1 long humeral bristle and 2 short adjacent pale hair, 1 sutural, 2 notopleural, 2 supraalar bristles. Propleuron with 1–2 pale hairs on upper portion (proepimeron) and 1 yellow bristle on lower portion (proepisternum). Scutellum with 2 pairs of bristles, apical pair long and strong, but basal pair short and hair-like.

Legs: yellow; coxae yellow to brownish-yellow; fore tibia slightly darkened in distal half; fore tarsus deep black from middle of basitarsus; mid and hind tarsomeres 4–5 brownish to brown. Hairs and bristles on legs mainly black. Fore coxa with pale hairs and 3–4 yellow bristles on antero-apical portion; mid coxa with mainly yellow hairs and 2–3 yellow anterior and apical bristles; hind coxa with 1 black outer bristle at middle. All femora with sparse microscopic pale hairs ventrally. Fore tibia devoid of bristles, with normal vestiture, but with additional ventral row of minute pale erect hairs; mid tibia with 2–3 anterodorsal, 1–2 posterodorsal, 2–3 anteroventral, 2–3 posteroventral, 3 apical black bristles, all short; hind tibia with 0–1 anterodorsal, 2–3 posterodorsal, 3–4 ventral short setae, apically with yellow comb of hairs and 3 black bristles. Fore tarsus densely covered with short setulae, with somewhat denser ones on segment 2 posteriorly; tarsomere 4 flattened ventrally; tarsomere 5 apically with one short black anterior claw and 1–2 simple black posterior spinules (all less than half length of tarsomere 5) and 2 apicodorsal setae (about half as long as tarsomere 5). Mid tarsomere 1 shorter than tibia, with 6–7 short ventrals. Hind tarsomeres 1–3 each with short ventrals; hind tarsomere 1 apically with yellow comb of hairs. Fore leg length ratio (from tibia to tarsomere 5): 63/48/11/10/9/8, mid leg: 75/64/20/13/8/7, hind leg: 110/26/32/18/11/8.

Wing: mostly hyaline, fumose in distal 1/5 or 1/6, brownish around tips of R and M veins, with apical half distinctly broader than basal half; veins brown. Vein straight, weakly sinuate at apex, apical part of vein M_{1+2} straight in basal 5/9, then strongly bent towards R_{4+5} , weakly sinuate at apex; cell R_{4+5} at widest point 8 times as wide as distance between tips of R_{4+5} and M ; M joining costa far before wing apex; Ratio of cross-vein *m-cu* to distal part of CuA_1 , 11/28. Anal vein distinct, almost reaching to wing margin; anal lobe present; anal angle right. Calypter yellow, with pale cilia. Halter yellow.



Figs 10–13. *Neurigona* spp., male fore leg: 10 — *N. solodovnikovi* Grichanov, **sp.n.**; 11 — *N. punctifera* Becker; 12 — *N. meironensis* Grichanov, **sp.n.**; 13 — *N. nubifera* (Loew).

Рис. 10–13. *Neurigona* spp., передняя нога самца: 10 — *N. solodovnikovi* Grichanov, **sp.n.**; 11 — *N. punctifera* Becker; 12 — *N. meironensis* Grichanov, **sp.n.**; 13 — *N. nubifera* (Loew).

Abdomen: slightly shining, with light pollen; tergite 1 wholly yellow; tergite 2 mainly yellow, with black band at middle; tergite 3 mainly orange-yellow, with black band in basal 1/3; tergite 4 either same as tergite 3 or entirely black; segment 5 dark-yellow with black ventral projection; hypopygium black. Hairs and bristles on tergites chiefly black, ventrum and segments 5–8 with pale hairs.

Genitalia: Epandrium as long as wide; 2 epandrial processes apicoventrally, each bearing apical seta. Surstylus with wide oval dorsal and rectangular ventral lobes; dorsal lobe with rounded projection; ventral lobe of surstylus with wide process ending with a hook and bearing 2 long flattened apical setae of unequal length. Cercus somewhat rounded, white, bearing short white hairs.

Female. Body length 4.6 mm, wing length 4.6 mm. Similar to male except lacking male secondary sexual characters. Eyes wider separated on face; upper face about as wide as postpedicel height. Wing: simple, mostly hyaline, smoky between R_{4+5} and M_{1+2} ; with middle portion broader than apical portion, veins brown; M_{1+2} with gentle curvature; 4th section of costa about 6 times as long as 5th one. Fore coxa with 3–4 yellow and black bristles on antero-apical portion; mid coxa with black anterior and apical bristles; fore tibia with 1 anterodorsal at basal 1/4, with black setulae; fore tarsus simple, yellow, with brownish segments 4–5. Fore leg length ratio (from tibia to tarsomere 5): 52/33/16/11/8/7. Abdomen: with segment 1 yellow; segments 2–5 orange-yellow, each with black ring in basal 1/3. Tergite 9+10 long, narrow, orange at base, blackish at apex, bifurcated, with long brownish hairs.

DIAGNOSIS. Very close to *N. nubifera*. Wing fumose in distal 1/5 or 1/6, brownish around tips of R and M veins, with apical half distinctly broader than basal half; apical part of vein M_{1+2} straight in basal 5/9, then strongly bent towards R_{4+5} ; M joining costa far before wing apex. Fore tarsus deep black from middle of basitarsus; fore tarsomere 4 flattened ventrally; tarsomere 5 apically with one short anterior claw. *N. nubifera* male has distinct brown spot at wing apex mainly; M_{1+2} is weakly sinuate at middle, joining costa just before wing apex; fore leg is yellow and simple; hypopygium has

different morphology (Figs 6, 13, 17). Female of *N. meironensis* is very close to female of *N. nubifera*, differing in stinger curvature of M vein (Fig. 3).

ETYMOLOGY. The species is named for the region of origin.

Neurigona suturalis (Fallén, 1823)

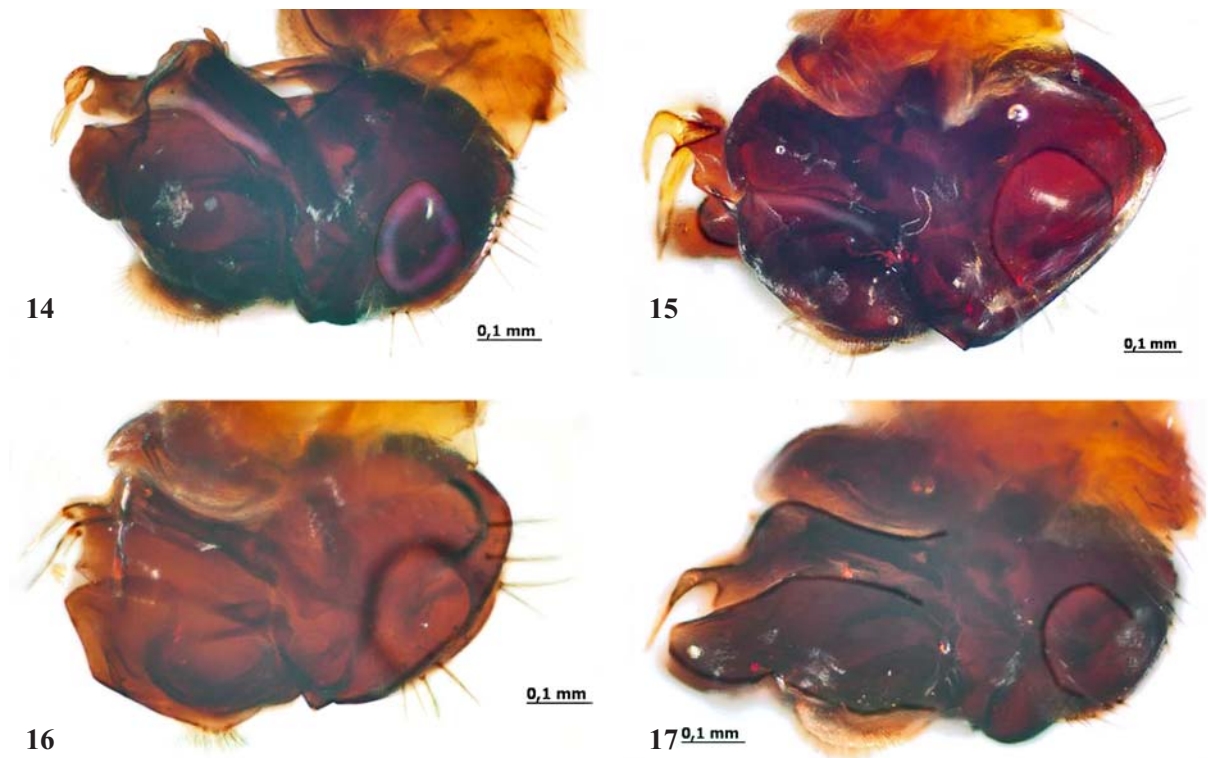
Neurigona verrichteræ Negrobov et Fursov, 1988, **syn. nov.**

MATERIAL EXAMINED. 1♂, Dania, 32UOG57, Bjergsted Bkr. NWZ, 25–30.VI.1977, S. Andersen & V. Michelsen leg. [ZMUC]; 3♂, [Krasnodar Terr.:] Krasnaya Polyana, Pslukh cordon, 7.VI.1978 (V.Rikhter) [ZIN].

REMARK. The author was lucky to find in ZIN collection 3 toptype males with the same label as types of *N. verrichteræ* described by Negrobov & Fursov [1988]. They are identical to the description of this species, but coming to *N. suturalis* in known keys to Palaearctic *Neurigona* species [Parent, 1938; Negrobov & Fursov, 1988; Grichanov, 2007]. Those toptypes have no significant difference from the *N. suturalis* species concept, as well as from Danish and Swedish *N. suturalis* specimens (examined). So, we consider the two names as synonyms.

KEY TO WEST-PALEARCTIC SPECIES OF THE GENUS *NEURIGONA* RONDANI

1. Males 2
- Females 21
2. Some of apical segments of fore tarsus modified, enlarged or plumose 3
- Apical segments of fore tarsus simple; sometimes 4–5th segments slightly enlarged, flattened or curved 5
3. Fifth segment of fore tarsus broad, triangular, black, short-setose along margins; 2nd–4th segments of same tarsus simple, yellow; 6.0 mm *longipes*
- Fifth segment of fore tarsus simple or weakly modified; at least 4th segment of same tarsus plumose 4
4. Mesonotum yellow, shining; 4th and 5th segments of fore tarsus long plumose at apex, with anterior setae more developed; 5th segment black; 3rd one without plumage; 5.0–5.4 *pseudolongipes*



Figs 14–17. *Neurigona* spp., hypopygium: 14 — *N. solodovnikovi* Grichanov, **sp.n.**; 15 — *N. punctifera* Becker; 16 — *N. meironensis* Grichanov, **sp.n.**; 17 — *N. nubifera* (Loew).

Рис. 14–17. *Neurigona* spp., гипопигий: 14 — *N. solodovnikovi* Grichanov, **sp.n.**; 15 — *N. punctifera* Becker; 16 — *N. meironensis* Grichanov, **sp.n.**; 17 — *N. nubifera* (Loew).

- Mesonotum matt-dark, covered with yellowish-grey or brownish-grey pollen; 3rd and 4th segments of fore tarsus black, bilaterally plumose; 5th segment of same tarsus white, without plumage; hypopygium pedunculate; 3.5–5.0 mm *quadrifasciata*
- 5. Mesonotum yellow, usually slightly shining, without pollen 6
- Mesonotum mainly matt-dark, covered with yellowish-grey or brownish-grey pollen 10
- 6. Abdominal 5th tergite short, with distinct lateral lobe directed downward 7
- Abdominal 5th tergite without lobelike lateral widenings ... 9
- 7. Hypopygium distinctly pedunculate; 3rd and 4th tergites with lobelike lateral widenings; 5th tergite having lobes black at apex; mid femur with black flat ventral setae at base; 6.0 *pallida*
- Hypopygium sessile; 3rd and 4th tergites without lobelike lateral widenings; mid femur without black flat ventral setae at base 8
- 8. Wing anal lobe undeveloped; 1st abdominal segment mainly brown; 4.9 *helva*
- Wing anal lobe well developed; anal angle almost right; 1st abdominal segment mainly yellow, brown dorsally; 4.5–5.0 mm *uralensis*
- 9. Abdomen with dark longitudinal stripe; hypopygium yellow at base *lineata*
- Abdominal tergites with dark transverse bands along anterior margin; fore tarsus short, 1/4 shorter than fore tibia; hypopygium sessile, shining black; 4.0–4.5 mm *erichsoni*
- 10. Wing with dark spot at apex 11
- Wing without dark spot at apex, sometimes slightly darkened anteriorly 14
- 11. Wing broadly smoky at apex, with regularly rounded distal margin 12
- Wing with distinct blackish stigma on somewhat projected apex behind M_{1+2} 13
- 12. M_{1+2} almost straight; 3.5–4.0 mm *nubifera*
- M_{1+2} with angular curvature at apex *meironensis*
- 13. CuA_1 with punctiform thickening at wing margin; 4.0–5.0 mm *punctifera*
- CuA_1 simple *solodovnikovi*
- 14. Abdomen mainly yellow 15
- At least some of abdominal tergites with large black triangular spot reaching 2/3 length of segment 16
- 15. M_{1+2} straight or nearly straight; R_{4+5} and M_{1+2} almost parallel; wing darkened, darker along anterior margin; 5th segment of fore tarsus weakly modified; 4.0–5.0 *suturalis*
- M_{1+2} strongly curved at middle of distal part; R_{4+5} and M_{1+2} converging; fore tarsus with very long anterior and short posterior claws; 5th segment of the same tarsus with strong curved ventral setae; 4.0–5.0 mm *abdominalis*
- 16. 5th segment of fore tarsus with small but strong black ventral spines 17
- 5th segment of fore tarsus without ventral spines 20
- 17. Fore basitarsus with a group of hairs at base, more than 2 times as long as diameter of segment; fore tarsus with erect ventral hairs; mid femur with dense light ventral hairs, half as long as diameter of femur; 4.0–5.0 mm ... *cilipes*

- Fore basitarsus without a group of long hairs at base; mid femur without long ventral hairs 18
18. Wing anal lobe weakly developed; vein *m-cu* 2.5 times as long as anal lobe and more than 5 times as long as distal part of CuA_1 ; 2nd tergite in basal 2/3 and 3rd and 4th tergites in basal 1/2 each with large black triangular spot; palpus white; 4.4–4.5 mm *subcilipes*
- Wing vein *m-cu* not more than 1.5 times as long as anal lobe and about 4 times as long as distal part of CuA_1 ; at least 3rd and 4th tergites in basal 1/3 each with brown band having median emargination 19
19. Palpus yellow; 2nd tergite in basal 1/3 with brown band having median emargination; last two segments of fore tarsus equal in length; 4.6–4.9 mm *semilata*
- Palpus white; 2nd tergite in basal 2/3 with brown triangular spot; 4th segment of fore tarsus about half as long as 5th one; 4.9 mm *febrilata*
20. Fore tarsus slightly thickened, entirely black, equal to or slightly longer than fore tibia *biflexa*
- Fore tarsus yellow, about 1.5 times longer than fore tibia; 4th and 5th segments of fore tarsus slightly thickened; 4.9 mm *dobrogica*
21. Mesonotum yellow, sometimes with dark spots 22
- Mesonotum mainly dark 27
22. Mesonotum matt 23
- Mesonotum shining 24
23. 6 pairs of dorsocentral setae; abdominal tergites each with black band at base having median emargination; smaller: 3.5–4.0 mm *quadrifasciata*
- 7 pairs of dorsocentral setae; abdomen including 5th segment yellow; larger: 6.0 *pallida*
24. Body entirely yellow; mesonotum shining; fore tarsus nearly twice longer than fore tibia; 4.0 (female only) ...
..... *unicolor*
- Body partly dark, with or without shine 25
25. Fore tarsus nearly twice longer than fore tibia *longipes*
- Fore tarsus at most 1.5 times longer than fore tibia.. 26
26. 4th section of costa about 1.5 times as long as 5th one ...
..... *pseudolongipes*
- 4th section of costa about 3 times as long as 5th one
..... *erichsoni*
27. Vein M_{1+2} ending before wing apex 28
- Vein M_{1+2} ending at wing apex 31
28. Fore tibia shorter than first two tarsal segments; 4th section of costa about 4 times as long as 5th one; M_{1+2} strongly sinuate in distal part; wing hyaline *biflexa*
- Fore tibia longer than first two tarsal segments; 4th section of costa at least 5 times as long as 5th one 29
29. Wing hyaline; 4th section of costa about 5 times as long as 5th one; M_{1+2} weakly sinuate *solodovnikovi*
- Wing distinctly smoky at apex 30
30. 4th section of costa about 6 times as long as 5th one; M_{1+2} strongly sinuate in distal part *meironensis*
- 4th section of costa about 5 times as long as 5th one; M_{1+2} weakly sinuate *nubifera*
31. Vein M_{1+2} nearly straight 32
- Vein M_{1+2} curved in distal part 33
32. Basal abdominal tergites yellow *suturalis*
- Basal abdominal tergites with dark bands *subcilipes*
33. Abdomen yellow; antennal postpedicel small; hind basitarsus whitish *abdominalis*
- Abdominal tergites with black spot 34
34. Antennal postpedicel large, higher than long; hind tarsus entirely black *cilipes*
- Antennal postpedicel longer than high; hind tarsus slightly darkened *dobrogica*

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