

Six new species of Empididae and Hybotidae (Diptera, Empidoidea) from Fennoscandia

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Six new Fennoscandian species of Empididae and Hybotidae are described and figured: *Clinocera alta* Jonassen **sp. n.**, *Hilara quasigriseola* Jonassen **sp. n.** (Empididae), and *Platypalpus argenticnemis* Jonassen **sp. n.**, *P. malaisei* Vaesoja & Jonassen **sp. n.**, *P. parvilamellatus* Jonassen **sp. n.**, and *P. tuberculatus* Jonassen **sp. n.** (Hybotidae).

Key words: Empidoidea, Empididae, Hybotidae, *Platypalpus*, *Hilara*, *Clinocera*, new species, Norway, Sweden, Finland.

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Introduction

The superfamily Empidoidea includes the families Hybotidae, Empididae, Atelestidae and Dolichopodidae (Sinclair & Cumming 2006), all of which occur in Fennoscandia. In addition, the family Ragadidae was proposed by Wahlberg and Johanson (2018) to include, among others, the genera *Anthepiscopus* Becker, 1891, *Iteaphila* Zetterstedt, 1838, *Ragas* Walker, 1837 and *Hormopeza* Zetterstedt, 1838. Sinclair and Cumming (2006) also proposed the family Brachystomatidae that among others included

the Fennoscandian genera *Gloma* Meigen, 1822, *Hemerodromia* Meigen, 1822 and *Trichopeza* Rondani, 1856, but Wahlberg and Johanson (2018) found this former family to be nested within the Empididae. Even though several of the known Palaearctic species were originally described based on Scandinavian material, the empidoidean fauna of Norway, Sweden and Finland has received relatively little attention for most parts of the 20th century. Although several important contributions were made in this period (see e.g. Frey 1913, Tuomikoski 1938), it is during the last decades that a clearer outline of the

Scandinavian Empidoidea has been established, especially within the family Hybotidae (Chvála 1975, 1983) and the Empididae genera *Empis* Linnaeus, 1758 and *Hilara* Meigen, 1822 (Chvála 1994, 2005). Our knowledge of the Scandinavian Dolichopodidae has also increased greatly, mostly through the contributions by Grichanov (e.g. 2006). But the Fennoscandian fauna of large parts of the Empididae including the subfamilies Hemerodromiinae and Clinocerinae as well as the comparatively large genus *Rhamphomyia* Meigen, 1822 (subfamily Empidinae) are still in need of revision.

During projects funded through the Norwegian Taxonomy Initiative in eastern Troms and Finnmark Province and in eastern part of Innlandet Province large materials of Empidoidea were collected. The project "Insects inhabiting freshwater and humid habitats in Finnmark, northern Norway" (2010–2014) focused on insects living in and along streams, rivers and lakes, while the project "Insects on rich fens in Hedmark, eastern Norway" (2016–2017) focused on the fauna on rich fens (see Ekrem *et al.* 2012, Jonassen *et al.* 2013, Jonassen & Andersen 2020). Of the six new species, four species belonging to the genera *Clinocera* Meigen, 1803, *Hilara*, and *Platypalpus* Macquart, 1827 were collected during these projects and are described and figured below. Some of these species have later been found in Sweden and Finland. In addition, two new *Platypalpus* species exclusively taken in Finland are also described and figured below.

Materials and methods

During the projects in Norway, adult Diptera were collected using different methods like Malaise traps, light traps, and sweep-nets and preserved in 75–80% ethanol. In addition, various surveys in Finland have revealed two undescribed *Platypalpus* species (Mäkilä *et al.* 2014, Salmela *et al.* 2015). These have been barcoded at the Canadian Centre for DNA Barcoding, Biodiversity Institute of Ontario where DNA was extracted and sequenced using standard protocols and primers (Dewaard *et al.* 2008) and submitted to the BOLD

(Ratnasingham & Hebert 2007) identification engine (http://v4.boldsystems.org/index.php/IDS_OpenIdEngine) in order to search for conspecific taxa and to assess the COI divergence between the new species and the taxa available in the BOLD database. We used "current database" and "All Barcode Records on BOLD" as options in the queries. Genetic similarities presented here are based on K2P distances and were calculated by the BOLD identification engine.

The morphological terms used here follow Merz and Haenni (2000), Sinclair (2000) and Sinclair and Cumming (2006). All holotypes and most paratypes are deposited in the entomological collections at the Department of Natural History, University Museum of Bergen (ZMBN), and in the Regional Museum of Lapland, Rovaniemi, Finland (LMM). The specimens deposited at LMM have been provided with a unique number (like MH-EMPI-2013-xxxx), referring to their disposition in the collections. A few paratypes are housed in the private collections of Terje Jonassen and Sven Hellqvist.

EMPIDIDAE

Subfamily Clinocerinae

Clinocera alta Jonassen sp. n. (Figure 1A–B)

Type material. Holotype ♂, **NORWAY:** Finnmark, Alta, Gargiaveien, Gargiælven at Storeng, N69.82277° E23.47884°, 90m.a.s.l., 26 June–10 July 2010, Malaise trap no. 2, Finnmarksprosjektet (ZMBN). Paratypes: 1♂, same data as holotype (ZMBN). **FINLAND:** 5♂♂, Lkor, Sodankylä, Pomokaira, Soasaapa, N67.8530° E26.0202°, 10 July–14 August 2013, Malaise trap, J. Salmela (LMM).

Additional material. **FINLAND:** Lkor, Sodankylä, Pomokaira, Soasaapa, N67.8530° E26.0202°, 14 August–19 September 2013, 2♂, Malaise trap, J. Salmela (LMM: MH-EMPI-2013-0477, MH-EMPI-2013-0905).

Differential diagnosis. Wing with crossvein $r_{2+3}-r_4$, terminalia with nearly oval epandrium, clasping cercus about as long as high, triangular with round corners, half as long as height of epandrium, front edge slightly curved, inner

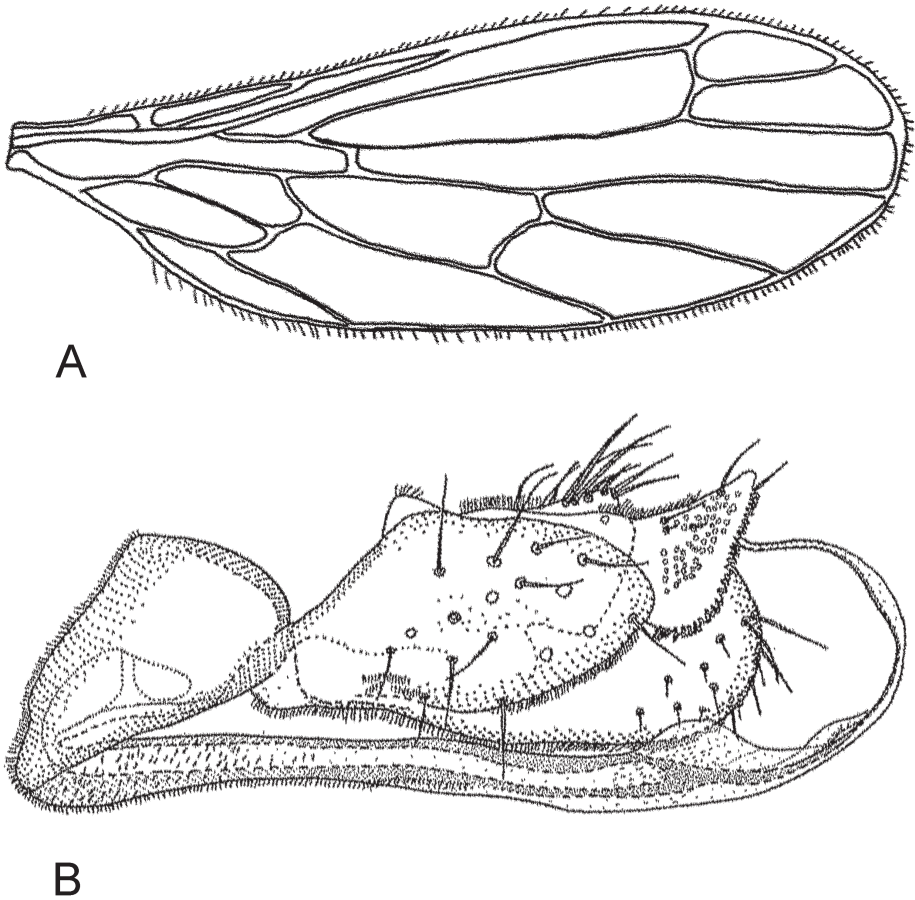


FIGURE 1. Details of *Clinocera alta* Jonassen sp. n., male. **A.** Wing. **B.** Terminalia, lateral view.

surface covered with short dentiform setae, surstylus setose.

Description. Male. Wing length 2.3–2.8 mm.

Head including face brownish-green, becoming more darkish grey below neck. Chaetotaxy of head as normal for the genus, antennae and palpus dark.

Thorax including pleurae dull brown, mesonotum with light grey stripe down the line of the inconspicuous acrostichals flanked by two narrow, darker vittae. Dorsocentrals 5, long and widespread. The bristling of the thorax as normal for the genus, with 1 strong humeral, 1 posthumeral, 2 notopleurals, 1 supraalar, 1 postalar and 2 scutellar bristles.

Wing (Figure 1A) without costal stigma, almost brownish bright, base of R_4 slightly clouded. With

single basi-costal seta. Auxiliary crossvein usually present, contiguous with base of R_4 , forming two subequal marginal cells. Vein R_4 straight, evenly diverging from R_5 . Haltere dark.

Abdomen. Brown.

Terminalia (Figure 1B). Hypandrium with lower edge curved, dorsal edge straight. Phallus straight, hardly increasing apically, flexible distal part strongly curved. Epandrium rhomboid, surstylus elongate axe-shaped, distally expanded, front corner round. Claspings cercus short, subtriangular, inner surface completely covered with short dentiform setae. Cercal plates comparatively well developed, slender, with long hairs along their whole length.

Female. Unknown.

Etymology. Named after the type locality. The

name is a noun in apposition.

Distribution and biology. The species is taken in northern Norway and Finland. In northern Norway it was collected at a lake-like broadening of the River Gargiaelva with sandy bed, broad vegetation zone with sedges (*Carex* spp.) and nearby woodland with birch (*Betula*), alder (*Alnus*) and willow (*Salix*) (Ekrem *et al.* 2012: fig. 3). The Finnish collecting site is a large aapamire, i.e. a minerotrophic, patterned fen, characterized by rich fen vegetation (see Laitinen *et al.* 2007).

Remarks. Due to the presence of an $r_{2+3}-r_4$ crossvein, *Clinocera alta* would run to *C. nivalis* (Zetterstedt, 1838) in the available keys (e.g. Niesiołowski 1992). In *C. nivalis*, however, the crossvein is closer to the wing tip, thereby forming an upper marginal cell shorter than the lower marginal cell. In *C. alta* sp. n. both cells are subequal in length. It must be noticed that these crossveins sometimes appear in certain specimens, and in others of the same species not. In a single specimen of *C. alta* this crossvein is lacking. The furnishing of the entire inner surface of the male claspings cercus with short dentiform setae may be regarded as an autapomorphic character.

Subfamily Empidinae

Hilara quasigriseola Jonassen sp. n.

(Figure 2A–B)

Type material. Holotype ♂, NORWAY: Finnmark, Kautokeino, Lahpoluoppal, Nahpoljohka N69.21029° E23.76200°, 320m.a.s.l., 09–24 July 2010, Malaise trap no. 4, Finnmarksprosjektet (ZMBN). Paratypes: 1♂ same data as holotype; 3♂♂, Finnmark, Sør-Varanger, Sametijohka at Sameti, N69.40106° E29.71923°, 43m.a.s.l., 19–24 June 2010, Malaise trap no. 8, Finnmarksprosjektet (ZMBN).

Differential diagnosis. Very similar to *Hilara griseola* Zetterstedt, 1838, but differs as fore tibia and fore metatarsus are more slender. Apical bristle on fore tibia is longer, and humeral bristle shorter than in *H. griseola*. Mid tibia with row of 2–4 ventral bristles which is lacking in *H. griseola*; dorsally with a mixture of semi-erect and adpressed hairs, in *H. griseola* these are more uniformly adpressed. Squamal fringe dark, while pale in *H. griseola*. Hypandrium more produced posteriorly than in *H. griseola*, leaving the base of the apical narrow part of hypandrium free, not concealed by the epandrial lamellae as in *H. griseola* and *H. morata* Collin, 1927 (see Chvála

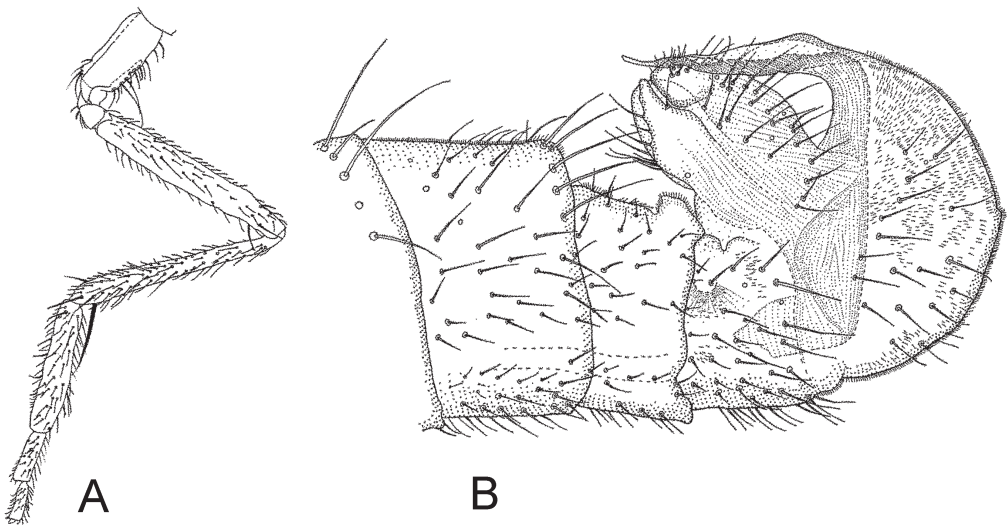


FIGURE 2. Details of *Hilara quasigriseola* Jonassen sp. n., male. A. Foreleg. B. Terminalia, lateral view.

2005: fig. 131). Epandrial lamellae with apical process broad, short and blunt, not narrow and digitiform as in *H. griseola*.

Description. Male. Body length 3.4–3.6 mm, wing length 4.0–4.5 mm.

Head. Frons and face broad, greyish dusted, occiput greyish dusted. Bristles and hairs on head all black. Single pair of ocellar bristles and single pair of frontal bristles equally long and strong. With 4–6 strong, upper postocular bristles present. Antenna black, style about as long as third segment, bare part of style very short. Palpus black, greyish pollinose, about as long as the combined length of first and second antennal segments. With strong, black bristle slightly in front of middle of palpus, all other preapical bristles not more than half its length. Proboscis black, subequal to height of head.

Thorax. Black, densely brownish-grey dusted, no distinct stripes. Acrostichals as long as bristle-like dorsocentrals, all black. Acrostichals widely biserial, divergent, dorsocentrals about 9–10 bristles in single row, distance between dorsocentrals and acrostichals slightly longer than between acrostichals rows. With 3 notopleural bristles, the anterior shortest, subequal in length to humeral bristle. Pronotum with single bristle on each side. With 4 scutellar bristles, apical pair longest.

Legs. Slender, moderately long, blackish with fine greyish pollinosity, fore and mid knees only slightly paler. All hairs and bristles black, more yellowish only beneath mid femur, at least towards coxa. Fore tibia (Figure 2A), with few distinct bristles, but with single, long, dorsal preapical bristle, about half the length of metatarsus. Mid femur with widely spaced row of anterodorsal bristles. Mid tibia with 2–4 ventral bristles, the longest stout, about as long as width of tibia. Hind tibia with about 4 dorsal bristles, at least one of these, plus apical bristle more than twice as long as width of tibia. Anteroventral bristles on hind tibia comparatively long, one of these at least as long as width of tibia. Fore tibia slender, only weakly widening distally. Fore metatarsus cylindrical, about half the length of fore tibia, nowhere wider than apex of fore tibia, all following tarsomeres clearly longer than wide. Mid tibia slender,

cylindrical, dorsally with mixture of adpressed and semi-erect hairs, some of the latter becoming almost bristle-like posterodorsally. Hind tibia slender, only weakly widening distally.

Wing. Brownish with brown veins. Stigma indistinct, long, faintly brownish. Single long, black costal bristle present. Anal vein weak, becoming invisible towards wing margin. Halter yellow. Squama dirty yellow with fringe of darkened hairs.

Abdomen. Black, brownish dusted. All hairs and bristles black. Hairs sparsely distributed all over abdomen, hind-marginal bristles distinct.

Terminalia (Figure 2B) small. Hypandrium produced posteriorly, leaving base of apical narrow part of hypandrium free. Epandrial lamellae with apical process broad, short and blunt.

Female. Unknown.

Etymology. From Latin *quasi*, meaning like or similar, and *griseola*, diminutive of the Latin adjective *griseus*, meaning grey, referring to the similarity to *Hilara griseola*.

Distribution and biology. The species is taken in northern Norway, where it was collected close to moderately to fast flowing streams and rivers with banks grown with birch (*Betula*) and willow (*Salix*) (Ekrem et al. 2012).

HYBOTIDAE

Subfamily Tachydromiinae

Platypalpus argenticnemis Jonassen sp. n.

(Figure 3A–B)

Type material. Holotype ♂, **NORWAY:** Finnmark, Porsanger, Stabbursdalen, Rørkulpen, N70.15215° E24.76686°, 28m.a.s.l., 02–17 July 2010, Malaise trap no. 5, Finnmarksprosjektet (ZMBN). Paratypes: 1♂, same data as holotype; 1♂, same data as holotype except 26 July–25 August 2010. **SWEDEN:** 1♀, Dalarna, Jansbo, 3 km SW Snöån, N60.04880°, E15.27208° 11 June–16 July 2012, pan trap, S. Kirppu (in coll. S. Hellqvist); 1♂, same data as previous except 16 July–16 August 2012. 1♂1♀, Västerbotten, Umeå, Hamnøgern, N63.82693° E 20.17473°, 18 July 2012, sweep net, N. Ericson (in coll. S. Hellqvist & T. Jonassen). **FINLAND:** 1♂, Ks,

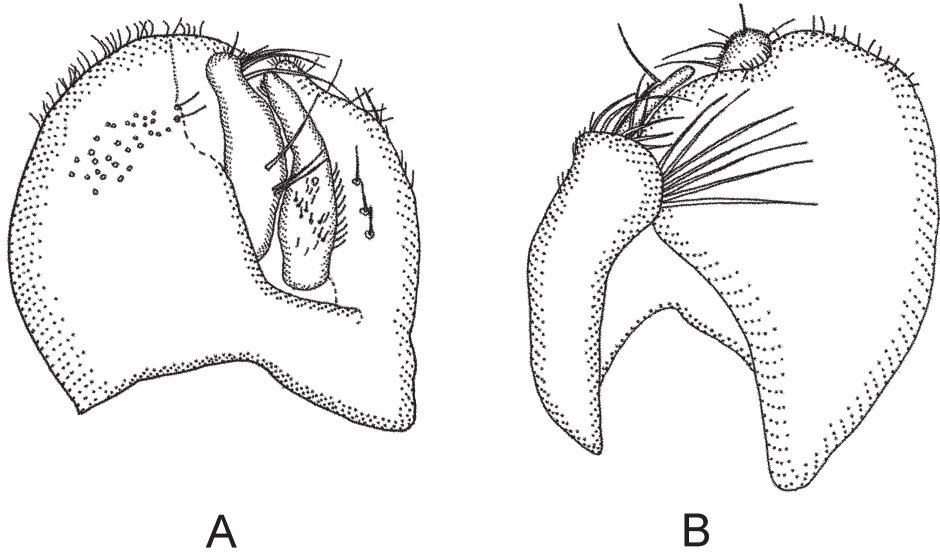


FIGURE 3. Details of *Platypalpus argenticnemis* Jonassen sp. n., male. **A.** Terminalia, dorsal view. **B.** Terminalia, ventral view.

Salla, Värriö, Kuntasjoki, N67.7494° E29.6169°, 04–29 June 2013; 1♂, same data as previous except 29 July–19 September 2013, Malaise trap, J. Salmela (LMM: MH-EMPI-2013-0176, MH-EMPI-2013-0196).

Additional material. NORWAY: Innlandet, Stor-Elvdal, Ottestad, N61.297111° E11.277147°, 21 June–20 July 2017, 1♂, 2♀♀; 20 July–06 August 2017, 1♂; 06 August–10 September 2017, 2♀♀, light trap, Hedmarksprosjektet (ZMBN). **SWEDEN:** Värmland, Eda, Skönerud, N59.70931° E12.16705°, 20 June–10 July 2017, 1♀, pan trap, S. Emilsson (in coll. S. Hellqvist). Ångermanland, Bjurholm, Kåringberget Ekopark, N Trolltjärnberget, N63.99450° E18.77667°, 12–26 August 2016, 1♂, Malaise trap, S. Hellqvist (in coll. S. Hellqvist). Västerbotten, Isklinten, W Botsmark, N64.27230° E20.09096°, 20 June–04 July 2018, 1♂1♀, window trap, A. Garpebring (in coll. S. Hellqvist). Åsele lappmark, Björnlandet, Rönmlandet, N63.96762° E17.96088°, 12–29 July 2014, 2♂♂, window trap, A. Garpebring (in coll. S. Hellqvist). Åsele Lappmark, Frederika, Lödgeälven at Kåringberget, N64.07916° E18.62776°, 26 July–11 August 2016, 1♂, Malaise trap, S. Hellqvist (in coll. S. Hellqvist). **FINLAND:** Ks, Salla, Värriö, Kuntasjoki, N67.7494°

E29.6169°, 29 June–29 July 2013, 1♂, Malaise trap, J. Salmela (LMM: MH-EMPI-2013-0373). Lkor, Savukoski, Urho Kekkonen kansallispuisto, Tytyroja, N68.1439° E28.5744°, 01 July–05 August 2014, 1♂, Malaise trap, J. Salmela (LMM: MH-EMPI-2014-0933).

Differential diagnosis. The species belongs in the *Platypalpus ciliaris*-group, but differs clearly from other related species by having numerous acrostichals and dorsocentrals together with a largely polished pleura. Further, the apical spur of mid tibia is longer than in other known European species of this group. The extensive silvery pile on front tibia is also a good characteristic; to a lesser extent, this trait can also be seen in two other Fennoscandian species, *P. ciliaris* (Fallén, 1816) and *P. mikii* (Becker, 1890).

Description. Male. Body length 2.8 mm, wing length 3.3 mm.

Head. Black, frons and occiput polished, dusted behind ocelli. Frons broad, about 1.5 times as broad as length of second antennal segment, widening above. Face linear, dusted. Clypeus narrow, polished, as long as, or even longer than face. Ocellar bristles minute, white. Vertical bristles not discernible. Pubescence on head everywhere pale. Antennae black. Third segment

short, a little longer than broad, arista about twice as long as third segment. Palpus yellow with white pubescence, moderately large, sub-triangular, broadest at tip, and with a single long hair at lower corner. Proboscis brownish black.

Thorax. Black, mesonotum completely polished, humerus, scutellum and narrow lateral margins dusted. Pleura largely polished, leaving prothoracic episternum, pteropleuron and front part of hypopleuron dusted. Hairs and bristles pale. Acrostichals small but distinct, irregularly six-serial for most of the length. Between posterior acrostichals and scutellum there is a broad band of fine but distinct, uniformly distributed hairs that continues forwards on both sides of thorax. These hairs are subequal to the row of dorsocentrals, making the dorsocentrals difficult to distinguish. This ample pilosity leaves only an irregular strip between acrostichals and dorsocentrals bare. Notopleuron with single bristle easily distinguished from surrounding pilosity. Humeral bristle lacking. Scutellum with 4 bristles, apical pair rather long, the other pair less than half as long.

Legs. Yellow including coxae, but darker in distal half of mid- and hind femur, mid tibia brownish with silvery pile apically. All tarsi clearer yellow than corresponding tibiae, last tarsal segments darker in distal half. Fore femur slightly thickened. Mid femur clearly more swollen than fore femur, with two rows of spine-like bristles ventrally, posterior row with strongest bristles. No posteroventral bristles. Fore tibia slightly spindle-shaped, dorsally with silvery pile covering most of basal half. Mid tibia almost straight, with moderately large, hooked apical spur about as long as the width at apex. Hind femur and tibia long and slender.

Wing. Faintly brownish with light brown veins. Crossveins closing basal cells near contiguous. Veins R_{4+5} and M only slightly curved, running parallel for most of their length. Halter pale, squama light brownish with pale hairs.

Abdomen. Black, shining, with pale pubescence. Hairs sparsely distributed all over the abdomen, hairs longer along posterior margin of sternum eight.

Terminalia (Figure 3A–B) moderately

large. Left epandrial lamella rather narrow with extensive dorsal pubescence around the tip. Cerci small, hidden between lamellae.

Female. Very similar to male. Apical two abdominal segments and small cerci dusted.

Etymology. From Latin *argenteus*, silvery, and *cnemis*, tibia, referring to the characteristic silvery pile on fore tibia.

Distribution and habitat. The species is taken in Norway, Sweden and Finland. In northern Norway it was collected close to a moderately fast running river with banks grown with willow (*Salix*) and alder (*Alnus*) (Ekrem et al. 2012). In Sweden it has been reported from sandy areas in Värmland, from a dry heath in Ångermanland, from a burned area in Västerbotten, and from several sites with mixed forest (S. Hellqvist in litt.). In eastern Finnish Lapland it was collected at a spring-fed headwater stream surrounded by old spruce (*Picea*) forest.

***Platypalpus malaisei* Vaesoja & Jonassen sp. n.**

(Figure 4A–B)

Type material. Holotype ♂, **FINLAND:** Ks, Salla, Kuntasjoki, N67.7494° E29.616°, 29 July–19 September 2013, Malaise trap, J. Salmela (LMM: MH-EMPI-2013-0189). Paratypes: 1♂, **FINLAND:** Lkor, Savukoski, Hannu Ollin vaara, N67.8439° E29.4685°, 03 July–07 August 2013, Malaise trap, J. Salmela (LMM: MH-EMPI-2013-0638). 1♂, Obb, Kemijärvi, Karhunotko, N67.0011° E27.1335°, 10 June–11 July 2014, Malaise trap, J. Salmela (LMM: MH-EMPI-2014-0141). 2♂♂, Lkor, Savukoski, Tyyroja, N68.1384° E28.5746°, 01 July–05 August 2014, Malaise trap, J. Salmela (LMM: MH-EMPI-2014-1001).

Differential diagnosis. The species is similar to *Platypalpus confiformis* Chvála, 1971, from which it can be separated by its darker apical part of mid- and hind femur (as in *P. confinis* (Zetterstedt, 1842)) and by the straighter right margin of left epandrial lamella (see Chvála 1975: fig. 251).

Description. Male. Body length 3.5 mm, wing length 3.5 mm.

Head. Thinly grey dusted, frons polished black. Front of frons about as broad as second

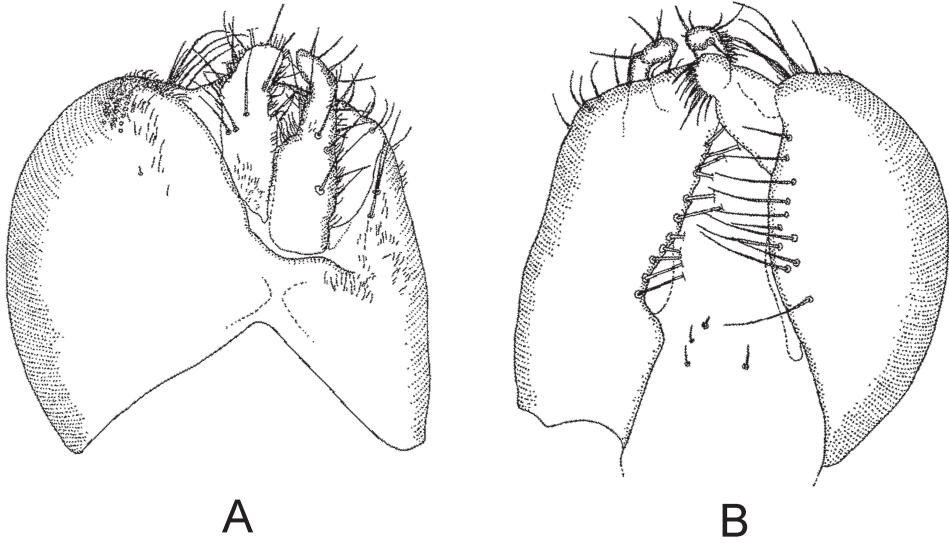


FIGURE 4. Details of *Platypalpus malaisei* Vaesoja & Jonassen sp. n., male. **A.** Terminalia, dorsal view. **B.** Terminalia, ventral view.

antennal segment, widening above. Face narrower than frons, dusted. Clypeus polished. Vertical bristles not differentiated, although some hairs behind the ocelli tend to be longer than the rest of the pubescence. Postocular pubescence whitish. Antennae uniformly dark, third segment almost twice as long as wide, arista twice as long as third segment. Palpus broadly oval, pale with single brownish apical hair. Proboscis brownish black.

Thorax. Densely grey dusted, with polished black mesonotum and sternopleura. Large thoracic bristles pale. Acrostichals biserial, small, rows close together, the distance to the dorsocentrals about 3 times as long as the distance between the rows of acrostichals. Dorsocentrals irregularly biserial, not longer than the acrostichals, with scattered pubescence lateral to the rows. With 2 notopleural bristles not easily discernible from other lateral pubescence. Humeral bristles lacking. Scutellum with 4 bristles, apical pair about twice as long as outer pair.

Legs. Yellow, apical 1/2 of mid- and hind femur dark brown, tarsi darkened. Legs covered with small white hairs. Fore femur slightly thickened, mid femur distinctly thickened with two rows of lateral spines, no posteroventral bristles. Mid tibia with apical spur rim-like and very short.

Wing. Faintly brownish with light brown

veins. Crossveins separated for about the length of crossvein r-m. Veins R_{4+5} and M almost straight, only slightly converging towards wing tip. Halter pale with brownish base of stem.

Abdomen. Polished dark brown, covered with small white hairs.

Terminalia (Figure 4A–B) rather large, polished. Left epandrial lamella with straight hind edge.

Female. Unknown.

DNA barcoding. Two specimens were successfully barcoded. The specimens have identical COI profile and are the only members of the BIN BOLD: ADD3086. Specimen identified as *P. confiformis* is the closest species in BOLD, being 4.13 % distant from the new species. However, far from all *Platypalpus* species in Europe have been barcoded.

Etymology. Named after René Malaise (1892–1978), Swedish entomologist and inventor of the tent-like insect trap bearing his name (Malaise trap).

Distribution and habitat. The species has only been found in northern Finland where it has been collected in the vicinity of spring-fed headwater streams, springs and intermittent brooks. All localities are surrounded by pristine boreal forests.

***Platypalpus parvilamellatus* Jonassen sp. n.**

(Figure 5A–C)

Type material. Holotype ♂, **NORWAY:** Finnmark, Porsanger, Stabbursdalen, Rørkulpen, N70.15215° E24.76686°, 28m.a.s.l. 17–26 July 2010, Malaise trap no. 5, Finnmarksprosjektet (ZMBN). Paratypes: 5♂♂, same data as holotype; 2♂♂, same data as holotype except 26 July–25 August 2010. 1♂, Finnmark, Alta, Gargiaelven at Gargia fjellstue, N69.80525° E23.48937°, 120m.a.s.l., 10–23 July 2010, Malaise trap no. 1, Finnmarksprosjektet (ZMBN); 1♂, same data as previous except 23 July–07 August 2010; 1♂, same data as previous except 07–24 August 2010. 3♂♂, Finnmark, Alta Gargiaelven, Gargiaelven at Storeng, N69.82277° E23.47884°, 90m.a.s.l., 10–23 July 2010, Malaise trap no. 2, Finnmarksprosjektet (ZMBN); 6♂♂, same data as previous except 23 July–07 August 2010; 1♀, same data as previous except 07–24 August 2010. 7♂♂, Finnmark, Kautokeino, Lahpoluoppal, Nahpoljohka, N69.21029° E23.76200°, 320m.a.s.l., 24 July–06 August 2010, Malaise trap no. 4, Finnmarksprosjektet (ZMBN). 6♂♂, Finnmark, Porsanger, Baukop, stream at Vuolit Gealbbotjavri, N70.20469° E24.90605°, 26m.a.s.l., 26 July–25 August 2010, Malaise trap no. 6, Finnmarksprosjektet (ZMBN). 9♂♂, Finnmark, Sør-Varanger, Sametijohka at Sameti, N69.40106° E29.71923°, 43m.a.s.l., 24 June–20 July 2010, Malaise trap no. 8, Finnmarksprosjektet (ZMBN). **FINLAND:** 1♂, Ks, Salla, Värriö, Kuntasjoki Ykj, N67.7494° E29.6169°, 29 June–29 July 2013, J. Salmela (LMM: MH-EMPI-2013-0343).

Additional material. **NORWAY:** Innlandet, Engerdal, Åsen, N61.885861° E11.782833°, 23 June–11 July 2016, 2♂♂; 11–21 July 2016, 1♂; 21 July–04 August 2016, 2♂♂, Malaise trap, Hedmarksprosjektet (ZMBN). Innlandet, Rendalen, Sekserbua NE, N61.556056° E11.168556°, 23 June–11 July 2016, 1♂, Malaise trap, Hedmarksprosjektet (ZMBN). Innlandet, Stor-Elvdal, Ottestad, N61.297111° E11.277147°, 20 July–06 August 2017, 1♂, light trap, Hedmarksprosjektet (ZMBN). Trøndelag, Oppdal, Kongsvoll, 900m.a.s.l., 12 July 1992, 1♂, J. Skartveit (in coll. T. Jonassen).

Trøndelag, Oppdal, Kongsvoll, Sprænbekken, 1020m.a.s.l., 01–10 August 1994, 1♂, J. Skartveit (in coll. T. Jonassen); 1♂, same data as previous except 950m.a.s.l. **FINLAND:** Ks, Salla, Värriö, Kuntasjoki, N67.7500° E29.6224°, 29 June–29 July 2013, 1♂, J. Salmela (LMM: MH-EMPI-2013-0158); 1♂, same data as previous except N67.7494° E29.6169°, 04–29 June 2013, (LMM: MH-EMPI-2013-0411). Obb, Kemijärvi, Pyhä-Luoston kansallipuisto, Huttuoja, N66.9983° E27.0265°, 01 July–08 August 2014, 1♂, J. Salmela (LMM: MH-EMPI-2014-0609). Lkor, Savukoski, Törmäoja, N67.8357° E29.4540°, 11 June–09 July 2014, 1♂, J. Salmela (LMM: MH-EMPI-2014-0662).

Differential diagnosis. The species belongs in the *Platypalpus ciliaris*-group, and is most similar to *P. confinis* (Zetterstedt, 1842). However, the two species can easily be separated as the male terminalia of *P. parvilamellatus* sp. n. is much smaller than in *P. confinis*. Particularly the left epandrial lamella is very small compared to the lamella in *P. confinis*. In addition, mid tibiae appear to be more curved in both sexes compared to *P. confinis*, with a larger apical spur. Further, *P. parvilamellatus* has a broader face than *P. confinis*, with the polished part of clypeus much broader and diamond-shaped, whereas this polished area is narrow and cigar-shaped in *P. confinis*.

Description. Male. Body length 2.2–2.6 mm, wing length 3.0–3.4 mm.

Head. Black, greyish dusted. Frons about as broad as length of second antennal segment, widening above. Face about as wide as front of frons, dusted. Clypeus broadly polished, subequal in length to length of face. Polished part of clypeus almost diamond-shaped. Ocellar bristles minute, white. No discernible vertical bristles. Pubescence on head pale. Antennae black. Third antennal segment a little more than twice as long as broad, arista about twice as long as third segment. Palpus ovate, about as long as third antennal segment, yellow, covered with white pubescence, some apical hairs longer. Proboscis black.

Thorax. Black; mesonotum completely polished; humeri, scutellum and narrow lateral margins dusted. Pleura dusted, with whole of sternopleuron polished. Hairs and bristles pale.

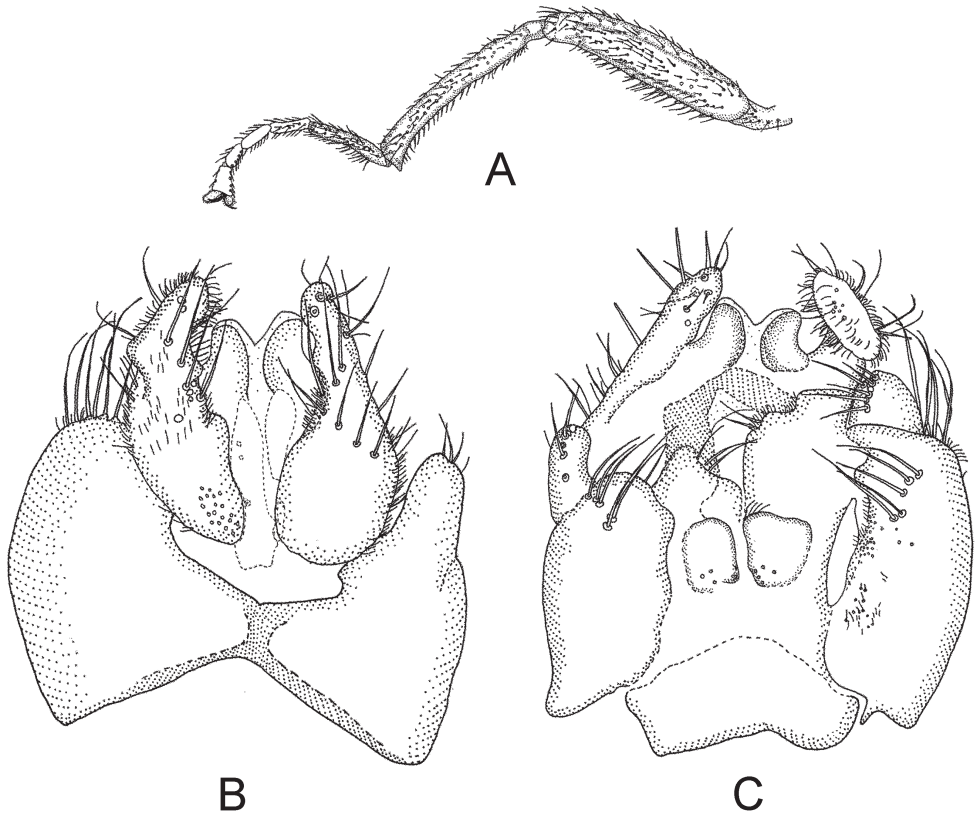


FIGURE 5. Details of *Platypalpus parvilamellatus* Jonassen sp. n., male. **A.** Mid leg. **B.** Terminalia, dorsal view. **C.** Terminalia, ventral view.

Acrostichals biserial, inconspicuous, dorsocentrals uniserial, small, with the prescutellar pair larger, with only a few small hairs between dorsocentrals and margin of mesonotum. Notopleuron with 2–3 bristles, but these are difficult to distinguish from the subequal hairs. Humeri with 2–3 hairs longer than its general pubescence, without distinct humeral bristle. Scutellum with four bristles, the apical pair rather long, the other pair less than half as long.

Legs. All coxae, knees and basal half of hind femur yellow, remaining parts of the legs more or less brownish, tibiae darkest in apical $\frac{3}{4}$ of mid tibia and covered with an apical silvery pile. Tarsal segments becoming somewhat darker towards apex, last tarsal segment very dark brownish in all legs. Fore femur only indistinctly swollen, with two rows of fine ventral hairs. Mid femur moderately thickened, about as swollen as

fore femur, with two rows of spine-like ventral bristles, posterior row strongest. No posteroventral bristles. Fore tibia cylindrical, thin, rod-like. Mid tibia (Figure 5A), distinctly curved, with small, darkened spur apically. Hind femur and tibia long and slender.

Wing. Faintly brownish with light brown veins. Crossveins contiguous. Vein closing anal cell slightly oblique, apical lower corner of anal cell $< 90^\circ$. Veins R_{4+5} and M slightly curved, parallel in apical $\frac{1}{4}$. Halter pale, squama light brownish with pale hairs.

Abdomen. Black, shining, with pale pubescence. Hairs sparsely distributed, with terga a little more densely pubescent, hairs longest along posterior margin of tergum eight.

Terminalia (Figure 5B–C) small, in dried specimens often partly hidden within the abdomen. Lamellae small with left epandrial lamella notably

minute. Cerci of normal size, consequently exceeding left epandrial lamella considerably. Right epandrial lamella with narrow, thumb-like process apically, encircled by some longer hairs. The small, left epandrial lamella with small triangular extension dorsally.

Female. Very similar to the male. Apical two abdominal segments and small cerci dusted.

Etymology. From Latin *parvus*, meaning small and *lamellatus*, with lamella, referring to the distinctive small lamella.

Distribution and habitat. The species is taken in northern and central Norway and in northern Finland. In northern Norway it was collected close to streams and rivers (Ekrem et al. 2012).

***Platypalpus tuberculatus* Jonassen sp. n.**

(Figure 6A–B)

Type material. Holotype ♂, FINLAND: Lkor, Savukoski, Törmäoja, N67.8357° E29.4540°, 10 July–16 August 2012, Malaise trap, J. Salmela (LMM: MH-EMPI-2012-0107).

Differential diagnosis. The combination of two pairs of vertical bristles, dusted mesonotum, moderately long and pointed mid-tibial spur,

biserial acrostichals and yellow thoracic bristles suggest an affinity to *Platypalpus balticus* Kovalev, 1971, but *P. tuberculatus* sp. n. appears to have smaller palpus and lacks the sharply defined annulations of the tarsi. There are also differences in the terminalia, including a notched right margin of the left epandrial lamella in *P. balticus* (see Kovalev 1971: p. 119), this margin being rather straight in *P. tuberculatus*.

Description. Male. Body length 2.5 mm, wing length 2.0 mm.

Head. Black, greyish dusted. Frons about as broad as the distance between hind ocelli, only slightly narrowing in front. Face slightly narrower than frons, greyish dusted. Clypeus polished black. With 2 pairs of vertical bristles, postocular pubescence light brownish to whitish. Antenna black. Palpus yellow, very small and oval. Proboscis brownish black.

Thorax. Black, mesonotum completely dusted, pleura largely dusted, but sternopleuron with anterior polished patch. Acrostichals small, biserial, distance to dorsocentrals somewhat longer than distance between the rows of acrostichals. Dorsocentrals small, not longer than acrostichals, seemingly multiserial, some pubescence similar in

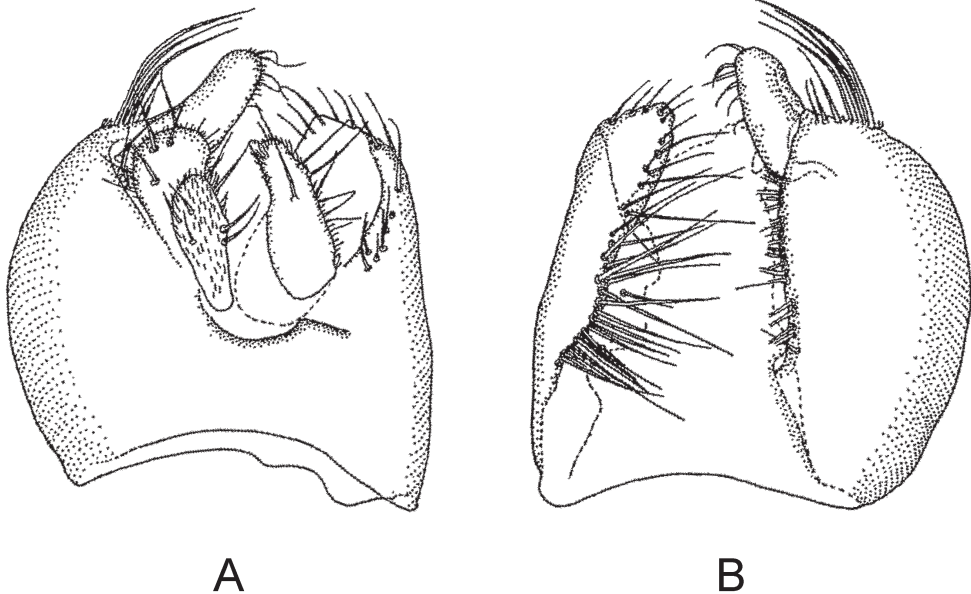


FIGURE 6. Details of *Platypalpus tuberculatus* Jonassen sp. n., male. **A.** Terminalia, dorsal view. **B.** Terminalia, ventral view.

size to the dorsocentrals continuing to the sides of mesonotum. With 1 humeral bristle and 2 notopleural bristles, the latter surrounded by some longish pubescence. Scutellum with four bristles. All bristles on mesonotum light brownish.

Legs. Yellow including coxae, tarsi darker towards apex in all legs. Fore femur slightly thickened. Mid femur not very broad, but clearly more swollen than fore femur, with two rows of spine-like bristles ventrally. Row of whitish posteroventral bristles present, about as long as 1/3 of the thickness of femur. Mid tibia with sharply pointed apical spur, slightly longer than width of apex of mid tibia. Mid trochanter ending in a blunt, flattened, spine-like tubercle at the point where it joins the coxa, about as long as the spine on mid tibia.

Wing. Slightly brownish with light brown veins. Crossveins closing basal cells separated for about twice the length of vein r-m. Veins R_{4+5} and M straight, almost parallel, but slightly converging at wing tip. Halter pale, squama yellow with pale hairs.

Abdomen. Brownish black, shining, with some slight dusting laterally on the tergites. Abdominal pubescence pale.

Terminalia (Figure 6A–B) of moderate size. Left epandrial lamella with dense row of longish hairs along entire straight hind margin.

Female. Unknown.

DNA barcoding. The DNA barcode clearly separate the new species from other barcoded members of the genus *Platypalpus*. It is the unique member of BIN BOLD: ADD3085 and the distance to the nearest Hybotidae species is 11.69 %. However, far from all *Platypalpus* species in Europe have been barcoded.

Etymology. From Latin *tuberculatus*, meaning with bulb, referring to the tubercle-like protrusion at the base of mid trochanter.

Remarks. The species is only known from a damaged type specimen, which has third segment of both antennae and the legs on the right side missing. There is also some damage to the bristling on the head and thorax.

Distribution and habitat. The type locality in Törmäoja conservation area, is a spring-fed headwater stream with luxuriant riparian

vegetation like Norwegian angelica (*Angelica archangelica*) and numerous other herbs, grasses and sedges. The bedrock is calcareous. Törmäoja stream is flowing in a deep valley, bordered by coniferous forests and barren boulder fields. The type locality is situated in the River Tuuloma catchment area, a river flowing northwards through Russia towards the Barents Sea.

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