

Lispocephala vitripennis Ringdahl, 1951 is a species distinct from *L. spuria* (Zetterstedt, 1838) (Diptera: Muscidae)

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Hellqvist, S.: *Lispocephala vitripennis* Ringdahl, 1951 is a species distinct from *L. spuria* (Zetterstedt, 1838) (Diptera: Muscidae). [*Lispocephala vitripennis* Ringdahl, 1951 är en art skild från *L. spuria* (Zetterstedt, 1838) (Diptera: Muscidae).] – Entomologisk Tidskrift 142 (4): 227–231. Björnlunda, Sweden 2021. ISSN 0013-886x.

Lispocephala vitripennis Ringdahl, 1951 is removed from synonymy with *L. spuria* (Zetterstedt, 1838). There are distinct differences between the two species in the male terminalia, especially in the shape of surstylus. Several other characters separating the two species are listed. Both species have a wide, overlapping distribution in Sweden. *Lispocephala serena* Collin, 1951, described from England, is considered to be a synonym of *L. vitripennis*.

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Lispocephala is a genus of predatory flies in Muscidae, subfamily Coenosinae, and the species are usually found in more or less wet habitats (Gregor et al. 2016, Ringdahl 1956). Twelve species are currently known from Europe (Pont 2021) and nine of these have been recorded from Sweden (Dyntaxa 2021). The identity of some of the nominal species described during the 19:th century remained obscure for a long time, but after studies of relevant type materials Collin (1963) and Ackland & Pont (1966) removed three nominal species from synonymy with *L. alma* (Meigen, 1826).

One of these species was *L. spuria* (Zetterstedt, 1838). When removing *L. spuria* from synonymy, Collin (1963) at the same time treated *L. vitripennis* Ringdahl, 1951 and *L. serena* Collin, 1951 as junior synonyms of *L. spuria*. The species is separated from other species of *Lispocephala* by the following features: all femora dark and all tibiae pale,

mid tibia with only a posterodorsal seta, apical tarsomere of fore leg uniformly coloured brown, not paler proximally, wings with costal spine indistinct and cross veins at most with a very weak and narrow infuscation, abdomen in both sexes pale anteriorly and with pairs of black lateral spots on tergites 3–5, male terminalia with a very narrow, yellow cercal plate.

When studying Swedish material of *Lispocephala spuria*, I found that specimens could be separated into two morphs based on decisive differences in the male terminalia. To solve the problem a more detailed study was made including studies of type materials.

Material

Lispocephala specimens were studied from Swedish Museum of Natural History, Stockholm (NHRS), Biological Museum at Lund University, Lund (MZLU) and the private collections of Nils Ericson, Umeå (PCNE) and Sven Hellqvist, Umeå (PCSH).

Results

Comparison of the name-bearing type specimens of *L. spuria* and *L. vitripennis* showed that these belong to different morphs. I consider the two morphs to represent different species, which means that *L. vitripennis* is a valid species. There are distinct differences between the two species in their male terminalia, especially in the shape of surstylus, with *L. spuria* having a prominent fingerlike projection basally, a projection that is lacking in *L. vitripennis* (Fig. 1A–B). The shape of male sternite 5 is very similar in the two species, but there is a difference in the length of bristles along the posterior margin of the sternite, the bristles being stronger and longer in *L. vitripennis* than in *L. spuria* (Fig. 2A–B). The illustration of male terminalia of *L. spuria* in Gregor et al. (2016) actually shows *L. vitripennis*. There are also several other features that differ between the two species, see Table 1.

Lispocephala spuria

Anthomyza spuria Zetterstedt, 1838, p. 693.

Material examined

Type: male lectotype, designated by Collin (1963), see also Pont (2011), SWEDEN: Lycksele lappmark: Lycksele, 8–11 June [1832] (MZLU, Type no. 3617:1), Fig. 3.

Additional material: SWEDEN: Skåne: Åbrolla, Osby, 22.vii.2006, ♂, leg. V. Michelsen (NHRS); Östergötland: Björneberg, Boxholm, 19.iv–18.v.2019, ♂, leg. N. Johansson (PCSH), Ekledskärret, Omberg, 1.iv–28.v.2021, leg. K. Antonsson (PCSH); Sörmland: Torshälla, vid

pölen, 18.iv.1986, ♂, leg. A. Orbe (NHRS); Uppland: Karins mosse, Lidingö, 8.vi.1991, ♂, 28.iv.1991, ♀, leg. H. Bartsch (NHRS); Hälsingland: Friggesund, 23.iv.2020, ♂, leg. S. Hellqvist (PCSH); Ångermanland: Kälsviken, Skuleskogen, 11–25.ix.2020, ♂, leg. J. Rytterstam (PCSH); Västerbotten: Tavelån N Ersboda, 18.v.2020, ♀, leg. S. Hellqvist (PCSH), Baggböle, Umeå, 8.v.2021, ♀♂, leg. S. Hellqvist (PCSH); Lule lappmark: Pahtavaara, Skröven, 2–22.vi.2021, ♀, leg. J. Nalisvaara (PCSH).

Lispocephala vitripennis

Lispocephala vitripennis Ringdahl, 1951, p. 187.
Lispocephala serena Collin, 1951, p. 40–41.

Material examined

Types: male lectotype, herewith designated, SWEDEN: Skåne: Skärålid, 19.vi.1944, leg. O. Ringdahl (MZLU, MZLU-DIP 00055767; Type no. 06116:1), Fig. 4. Paralectotypes (2♂, 3♀), same data as lectotype. All types are provided with a label stating their identity as either lectotype or paralectotype.

Additional material: ENGLAND: Glouc. Bristol, Blaise Woods, 8.v.1955, ♂, leg. E. A. Fonseca (MZLU); SWEDEN: Skåne: Skärålid, 14.ix.1953, ♂, leg. O. Ringdahl (MZLU); Småland: Bolmen, 6.viii.1949, ♂, leg. O. Ringdahl (MZLU); Östergötland: green rhombic label, meaning that the specimen was collected 1830–1870 and presumably originally part of coll. J.W. Zetterstedt, ♂ (NHRS); Ångermanland: Tärnettholmen, Skuleskogen, 1–21.vi.2020, 1♀3♂, leg. J. Rytterstam (PCSH).

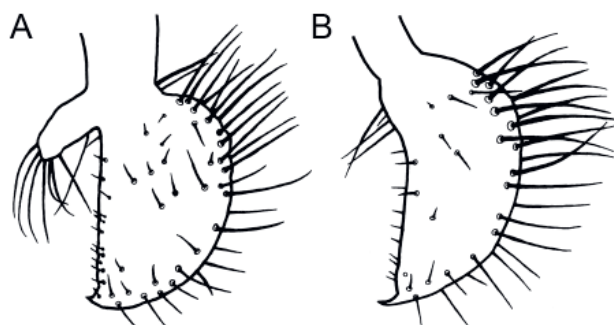


Figure 1. Surstylus in left lateral view. – A) *Lispocephala spuria* (Zetterstedt, 1838); – B) *L. vitripennis* Ringdahl, 1951.

Figur 1. Surstylus i lateral vy. – A) *Lispocephala spuria* (Zetterstedt, 1838); – B) *L. vitripennis* Ringdahl, 1951.

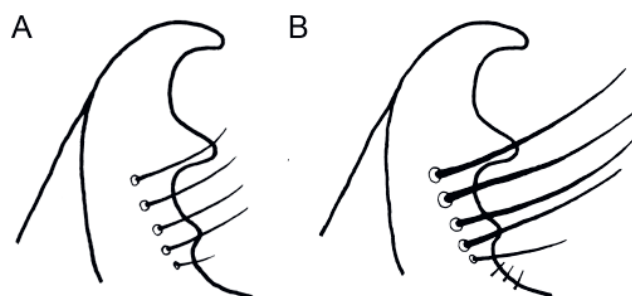


Figure 2. Left side of male sternite 5. – A) *Lispocephala spuria* (Zetterstedt, 1838); – B) *L. vitripennis* Ringdahl, 1951.

Figur 2. Vänstra delen av hanens sternit 5. – A) *Lispocephala spuria* (Zetterstedt, 1838); – B) *L. vitripennis* Ringdahl, 1951.



Figure 3. Lectotype of *Lispocephala spuria* (Zetterstedt, 1838). Scale bar: 1 mm. Photo: Christoffer Fägerström.

Figur 3. Lektotyp av *Lispocephala spuria* (Zetterstedt, 1838). Skallstreck: 1 mm. Foto: Christoffer Fägerström.

Discussion

Males of the two species can be separated by the shape of surstylus and the bristling of sternite 5. The other characters listed in Table 1 are more variable, e.g. the extension of yellow colour on anterior tergites and antennae, but the number of setulae on the lower, posterior part of anepisternum seems also to be a reliable character. Females of the two species may have a rather similar pattern on the abdomen and females should be determined with caution.

Lispocephala serena Collin, 1951, was described almost simultaneously with *L. vitripennis* and only two weeks later (Hennig 1961). The description was based on specimens from several localities in England but no holotype was selected (Collin 1951). The illustrations of the male terminalia of *L. vitripennis* in Hennig (1961), that indeed show *L. vitripennis*, are probably based on specimens at Hennig's disposal from Blaise Woods, England, one of the localities listed by Collin (1951) in the

description. In MZLU there is a male specimen from the same site in England that is clearly *L. vitripennis*, therefore I believe that *L. serena* is a synonym of *L. vitripennis* and not of *L. spuria*.

Lispocephala spuria s. lat. has an Eurasian distribution, in Europe from France and Italy to Fennoscandia, in Asia in China and Japan (Gregor *et al.* 2016). Due to the confusion of *L. spuria* s. str. and *L. vitripennis*, the distributions of these species are uncertain. Judged from the studied material both species are known from Sweden and *L. vitripennis* from England. Antti Haarto and Kaj Winqvist checked Finnish specimens of “*L. spuria*” at their disposal and they were all *L. spuria* s. str. The present data suggest that *L. spuria* in Europe is a northern species that may not occur south of Fennoscandia. In Sweden the records of both species are rather few, but *L. spuria* appears to be more common, at least in the north. There is, however, a large overlap in distribution, *L. vitripennis* being found from 56 to 63°N and



Figure 4.
Lectotype of
Lispocephala
vitripennis
Ringdahl, 1951.
Scale bar: 1 mm.
Photo: Christoffer
Fägerström.

Figur 4. Lektotyp
av *Lispocephala*
vitripennis
Ringdahl, 1951.
Skalstreck: 1 mm.
Foto: Christoffer
Fägerström.

L. spuria s. str. from 56 to 66°N. The records of “*L. spuria*” from fens in Lule lappmark (66°N) (Engelmark & Engelmark 1989) most probably belongs to *L. spuria s.str.* In Skuleskogen in Ångermanland (63°6’N, 18°31’E), both species were found in similar habitat (sandy sea shore) at sites just a few kilometers apart, showing that the two species occur sympatrically.

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Table 1. Comparison of *Lispocephala spuria* (Zetterstedt, 1838) and *L. vitripennis* Ringdahl, 1951.Tabell 1. Jämförelse mellan *Lispocephala spuria* (Zetterstedt, 1838) och *L. vitripennis* Ringdahl, 1951.

	<i>L. spuria</i>	<i>L. vitripennis</i>
First flagellomere	Colour variable, from completely black to narrowly pale basally as in <i>vitripennis</i> .	Black, narrowly pale basally, pale area reaching arista.
Scutum	Greyish dusted with faint but clearly visible brownish stripes along dorsocentrals.	Greyish dusted, stripes along dorsocentrals often hardly discernible, sometimes distinct as in <i>spuria</i> .
Scutellum	Basal scutellars surrounded by a larger brownish black patch.	Basal scutellars surrounded by a smaller, less distinct dark patch.
Anepisternum	Setulae fewer in number, 1–3 present between the two lowermost setae on posterior margin.	Setulae more numerous, 4–5 present between the two lowermost setae on posterior margin.
Surstylus	Broad, with a basal, anteriorly directed setose projection (Fig 1A).	More slender, with a basal tuft of setae but without projection (Fig. 1B).
Sternite 5 in male	Laterally with a row of 3-5 relatively short and weak setae (Fig 2A).	Laterally with a row of 3-5 relatively long and strong setae (Fig 2B).
Colour of abdomen	Anterior part extensively yellow (Fig. 3). Syntergite 1–2 yellow, with central stripe and basal, lateral patches dark. Central stripe longer than broad. Tergite 3 yellow with a pair of lateral spots and a central stripe. Tergite 4 predominantly dark but ventral part broadly yellow laterally	Anterior part with yellow colour variable but usually less extensive (Fig. 4). Central dark stripe on syntergite 1–2 usually broader than long. Tergite 3 usually with a transverse dark band centrally on tergite connecting the two lateral spots. Tergite 4 predominantly dark with ventral part narrowly yellow laterally.

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Sammanfattning

Släktet *Lispocephala* utgörs av rovlevande flugor i familjen husflugor, Muscidae. Flugorna förekommer främst i fuktiga miljöer. Sedan tidigare är 12 arter kända från Europa varav nio även finns i Sverige. *L. vitripennis* Ringdahl, 1951 som ansetts vara synonym med *L. spuria* (Zetterstedt, 1838) visas här vara en god art. Arterna kan entydigt skiljas åt på skillnader i hangenitaliernas utformning och det finns även, delvis överlappande, skillnader i färgteckning på bakkropp och antenner, samt förekomsten av hår på kroppssidorna. Båda arterna har stor, överlappande utbredning i Sverige.