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Contributions to the taxonomy and faunistics of some arctic species of *Spilogona* Schnabl (Diptera: Muscidae)

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Abstract

New synonymies in the genus *Spilogona* Schnabl, 1911 are proposed: *S. novaesibiriae* (Frey, 1915) = *S. obsoleta* (Malloch, 1920), **syn. nov.**; *S. trianguligera* (Zetterstedt, 1838) = *S. setinervis* (Huckett, 1932), **syn. nov.** *Spilogona trianguligera* and *S. tendipes* (Malloch, 1920) are newly recorded from Greenland, and *S. trianguligera* also from W Siberia. The female of *S. vikhrevi* Sorokina, 2010 is described and the species is newly recorded from Wrangel Island (Far East Russia).

Key words: Arctic Russia, Greenland, new records, new synonymies

Introduction

The muscid genus *Spilogona* Schnabl, 1911 is found primarily in the boreal to high arctic parts of the Northern Hemisphere, or under comparable climatic conditions caused by high altitude. At present, 238 *Spilogona* species are known from the Holarctic Region (Hennig 1959a-c, Huckett 1965, Pont 1986, Shinonaga 2003, Michelsen 2006, Gregor & Rozkošný 2007, Sorokina 2010, 2012a, Xue *et al.* 2009a, b, Sorokina & Khruleva 2012), of which about 50 percent (123 species) live in part or exclusively as members of the arctic tundra biome. The number of arctic *Spilogona* species known from the Nearctic Region is 88. In comparison only 66 species of *Spilogona* were known from the arctic part of the Palearctic Region until recently because of the lack of data from the huge Russian arctic area. Recent efforts (Sorokina 2010, 2012a, b, Sorokina & Pont 2010, Sorokina & Khruleva 2012) have raised this number to 79.

The genus *Spilogona* consists of small to medium sized, dark-coloured muscids covered in greyish to blackish dusting frequently revealing paired dark markings, often trapezoid in shape, on abdominal tergites III and IV. The different species exhibit many characters of diagnostic significance, e.g., colour and density of dusting on prementum, head and body, colour of wing, calypters and haltere; chaetotaxy of head, body and legs, profile shape of head, width of male frons, shape of proboscis, shape of male abdomen, structure of male and female terminalia. Still, the high number of species encountered in arctic situations in combination with an often poor state of preservation of specimens collected in traps, preserved in alcohol etc., make species identification of *Spilogona* samples a difficult task even for the specialist. The shape of the male surstyli, cerci and gonites provide excellent diagnostic characters. After gentle KOH-treatment and careful dissection it is important to inspect or illustrate the parts in strict profile or caudal views. Especially the shape of the surstyli often changes dramatically when tilted slightly (cf. Figs. 2 and 3).

The results presented below stem from our identification work on big samples of *Spilogona* from arctic Russia (Taymyr Peninsula, Wrangel Island, Chukotka) by VS and from Greenland by VM. We present two new synonymies, supplementary illustrated descriptions and new records.

Described from 2 males from the northern European Russia, but VS has now discovered a large number of *Spilogona vikhrevi*, including specimens of the previously unknown female, in K.B. Gorodkov's collection of Diptera from Wrangel Island kept in ZISP. Some supplementary characters of the male and a description of the female are given below.

Male (Fig. 11). Genal height about $\frac{1}{2}$ of eye height. Frontal vitta 1.5–2 times wider than diameter of anterior ocellus. Notopleuron bare or with a few setulae. Scutellum with preapical setulae on upper border of declivities. Fore tibia with 0–1 *p* seta. Mid femur with 6–10 *pv* setae; mid tibia with 0–2 *ad* and 0–2 very short *v* setae. Hind femur with 7–10 *av*, 3–5 hair-like *pv* setae on basal half; hind tibia with 2–3 *ad*, 2–3 *av* and 6–7 *pd* setae of different lengths on apical half (1 longer *pd* seta in middle). Sternite I with 2 setulae. In some specimens all setae on the legs are very short. Some specimens have basally curved tibiae.

Female (Figs 12, 13). Very similar to male in body size and chaetotaxy, but very different in general appearance due to thick golden greyish dust on head and body that makes it resemble a scathophagid dung fly.

Head: Width of frontal vitta equals width of fronto-orbital plate; frons with 3 pairs of strong orbital setae followed by 3–4 hair-like orbital setae reaching base of antennae; frontal setae in two uneven rows. Width of parafacial at level of antennal base 1.5 times width of postpedicel. Height of gena variable, ranging from $\frac{1}{2}$ – $\frac{3}{4}$ of eye height (Figs 12, 13). **Thorax:** Scutum with 3 narrow dark stripes. Wing with a light brownish tinge. Upper calypter brown; lower calypter fuscous yellow. Haltere light yellow or brownish. **Legs:** Fore tibia with 1–3 *p* setae, sometimes also with some short and spinulose *v*, *av* and *pv* setae. Mid tibia with 2 *ad*, 2–5 *pd*, 2 *v*, 2 *av* and 1 *pv* setae. Hind tibia with 2 *pv* setae. Abdominal dusting ranging from golden to yellowish grey, if golden then with indistinct paired dark marks visible on tergites III–V. Postgenital plate without spines, only with short and fine setulae.

The species can be incorporated into Hennig's (1959a: 266) key to females of Palaearctic *Spilogona* by the following couplets:

- 29 (26) as in Hennig.
29a (33) Anepisternum with interspatial setae.
29b (30) Anepisternum with 1 long and strong interspatial seta; body covered in dense golden or golden grey dusting; frons with 3 pairs of strong orbital setae and 3–4 additional hair-like orbital setae reaching antennal base. Larger, wing length normally more than 5 mm. *Spilogona vikhrevi* Sorokina
30 (31) Anepisternum with 2 (sometimes with 1) strong interspatial setae; body covered in darker, greyish to brownish black dusting; frons at most with 2 orbital setae. Smaller, wing length less than 5 mm. 31
31 (32) as in Hennig.

Material examined. RUSSIA, Wrangel Island, 1 male 8 females, 4 km S Sovetskaya Mt., 450 m, around puddle, 14.vii.1972, leg. K. Gorodkov (ZMSP); 2 males 3 females, middle part of the River Mamontovaya, N Perkatkun, around puddle, 17.vii.1972, leg. K. Gorodkov (ZMSP); 24 males 17 females, Somnitel'naya Bay, south of Island, around puddle, 10.vii.1972, leg. K. Gorodkov (5 males 5 males SZMN, rest ZMSP); 2 males 3 females, slope of Tundrovii Mt., around puddle, 18.vii.1972, leg. K. Gorodkov (1 females SZMN, rest ZMSP).

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