

## Two new genera of the family Scathophagidae (Diptera)

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**Abstract.** Two new monotypic genera of the family Scathophagidae are described: *Jezekia* gen. nov. with the type species *Jezekia kmenti* sp. nov. from the Palaearctic Region (Czech Republic), and *Suwaia* gen. nov. with the type species *Parallelomma longicornis* Hendel, 1913 from the Oriental Region (China: Taiwan). *Suwaia longicornis* (Hendel, 1913) comb. nov. is redescribed. Comments on generic classification, differential diagnoses of both genera and species involved are given, and important diagnostic characters are illustrated.

**Key words.** Diptera, Scathophagidae, *Jezekia*, *Suwaia*, taxonomy, new genus, new species, Palaearctic Region, Czech Republic, Oriental Region, China, Taiwan

### Introduction

The Palaearctic fauna of the family Scathophagidae currently contains 37 valid genera and 220 species (ŠIFNER 2008a, 2009), while the poorly known Oriental fauna includes only nine genera with four described and at least seven undescribed species (VOCKEROTH 1977; Šifner, unpubl.). In addition to these taxa, I describe here two new genera and one new species, *Jezekia kmenti* sp. nov., based on newly collected material from the Brdy Mts. in Central Bohemia, Czech Republic. This discovery means that 78 species of dung flies are now recorded from the Czech Republic (cf. ŠIFNER 2006, 2008b). Moreover, I had the possibility to study seven specimens, including the holotype, of *Parallelomma longicornis* Hendel, 1913 from the Oriental Region (China: Taiwan). I redescribe the species here with special emphasis on the previously un-known genitalia of both sexes, and erect for it a new genus, *Suwaia* gen. nov.

### Material and methods

The adults of *Jezekia kmenti* sp. nov. were collected in a Malaise trap; the specimens were originally preserved in 70% ethanol and later pinned. Double slashes (//) are used to separate data on different labels. Czech localities are accompanied with the codes of Central European grid mapping (EHRENDORFER & HAMANN 1965), following ZELENY (1972) and PRUNER & MIKA (1996).

## Taxonomy

### *Jezekia* gen. nov.

**Type species.** *Jezekia kmenti* sp. nov., here designated.

**Diagnosis.** The basic characters are as follows: palpi in apical half enlarged, one katepisternal bristle, one distinct proepisternal and one stigmatal bristle, membrane of wings covered by dark microtrichia, epiphallus long with a sclerotized promotory dorsoapically, and female sternite 7 divided into two separate sclerites.

**Differential diagnosis.** *Jezekia* gen. nov. differs from other scathophagid genera in the following unique combination of characters: i) surface of wings fumous (membrane covered by dark microtrichia) and with a dark circular spot around crossveins R-M and M-Cu; ii) vein A<sub>1</sub> in distal half conspicuously weakened and reaching wing margin; iii) epiphallus long, dorsoapically with a sclerotized promotory (Fig. 3); iv) female tergite 7 divided into two separate sclerites, partly pushed ventrally, and sternite 7 small and irregular in shape (Fig. 4).

**Etymology.** I dedicate this genus to my friend, Czech dipterologist Jan Ježek (National Museum, Prague). The gender is feminine.

**Comment.** I place this genus tentatively in the tribe Cleigastriini (cf. ŠIFNER 2003).

### *Jezekia kmenti* sp. nov.

(Figs. 1–4)

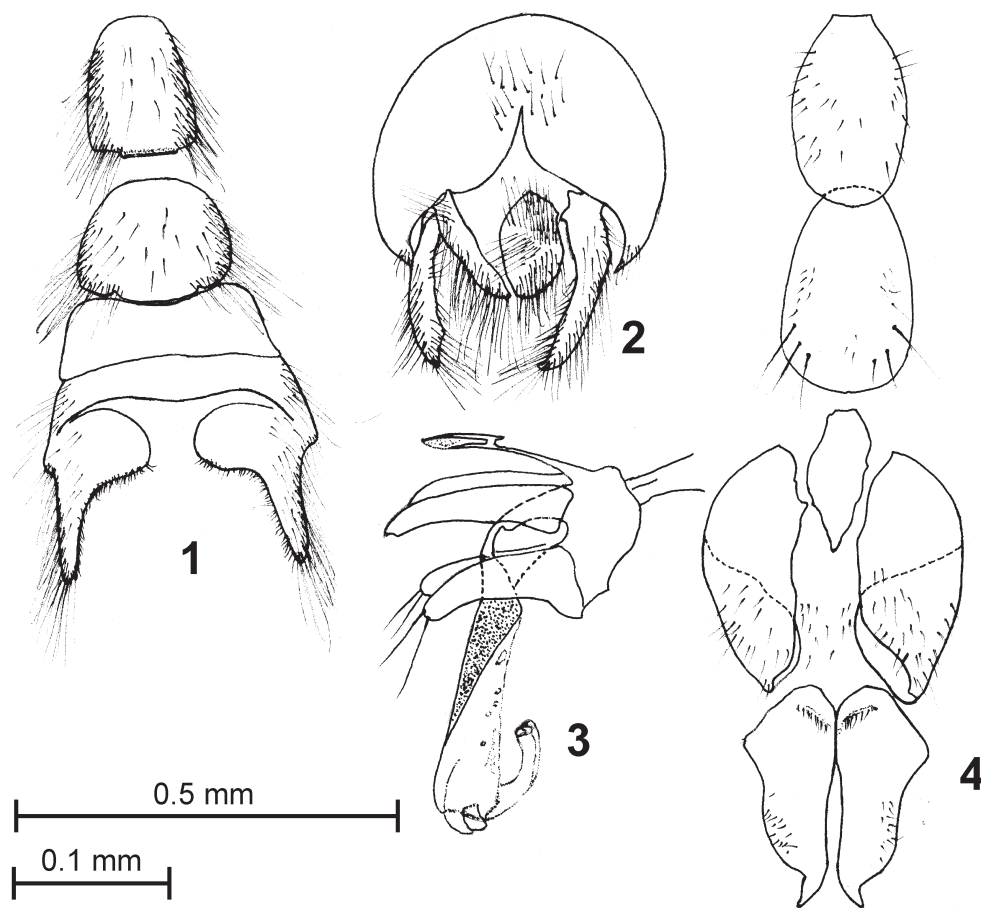
**Type material.** HOLOTYPE: ♂, CZECH REPUBLIC: BOHEMIA: Brdy Mts., Tok Mt. (6249), 49°41'47"N 13°52'38"E, about 830 m a.s.l., Malaise trap, 12.v.2005, Liška leg. PARATYPES: 2 ♂♂ 3 ♀♀, the same data as holotype. The type material is currently in my private collection, which is to be deposited in the National Museum, Prague, Czech Republic. Figures are based on paratypes (♂♀).

**Description.** Body length 5–7 mm. Ground colour brown to dark brown.

**Head.** Three orbital bristles; 3–4 frontal bristles; frontal vitta, parafacials, face and genae, scapus and pedicellus brown; orbitals, first flagellomere and posterior part of head dark; arista bare, basally slightly thickened, one and half longer as first flagellomere; vibrissal callus very conspicuous with 8–10 strong bristles; palpi brown, basally narrow and in apical half enlarged with black and short bristles only.

**Thorax.** Acrostichal bristles very sparse, four to five dorsocentral bristles (2–3 + 2), two humeral bristles, three intraalar bristles, one presutural bristle, one prealar bristle, two postalar bristles, four scutellar bristles of equal size, two notopleural bristles, one distinct proepisternal bristle, one stigmatal bristle and one katepisternal bristle. Wings fumous with brown veins, crossveins R-M and M-Cu with a dark and wide circular colouration, membrane covered by small and dark microtrichia. Legs completely brown, fore femora dark and only apically brown.

**Abdomen.** Male. Sternite 3 more or less rectangular and caudally with low projection, sternite 4 oval with two small incisions caudally, lobes of sternite 5 basally wide, caudally very narrowed and pointed with short bristles in middle. All sternites with long, hair-like bristles laterally (Fig. 1). Cerci with long, hair-like bristles, surstyli short, more or less straight and with hair-like bristles on their inner side (Fig. 2). Pregonite straight with two apical bristles, postgonite of equal size as praegonite and beak-shaped apically, epiphallus with promotory dorsoapically (Fig. 3).



Figs. 1–4. *Jezekia kmenti* sp. nov. 1–3 – ♂ paratype: 1 – abdominal sternites 3 to 5; 2 – cerci and surstyli; 3 – pregonites and epiphallus. 4 – ♀ paratype, abdominal sternites 5 to 8. Scale bars: 0.5 mm (Figs. 1–2, 4), 0.1 mm (Fig. 3).

**Female.** Sternites 5 and 6 oval, sparsely setose, sternite 7 very small and irregular in shape. Tergite 7 completely divided in two sclerites partly moved ventrally and connected by membrane, with very short setae caudally, sternite 8 wide, pointed caudally and with sparse bristles laterally (Fig. 4).

**Etymology.** The species is dedicated to the Czech heteropterist Petr Kment (National Museum, Prague).

**Habitat.** The type series was collected in a Malaise trap located at the edge of a waterlogged forest with *Picea albies* and of a peat bog; herb layer was with *Sphagnum* moss and cotton-grass and tree layer with birch ca. 3–5 m in height, intermixed individual little spruces 1–3 m in height.

**Distribution.** Czech Republic (central Bohemia).

### *Suwaia* gen. nov.

**Type species.** *Parallelomma longicornis* Hendel, 1913, here designated.

**Diagnosis.** The main diagnostic characters are as follows: anterior third of frons arcuately receding in both sexes (in lateral view), genae with one strong and long bristle, palpi without long apical bristle, one katepisternal bristle, fore femora with one distinct, short spine-like bristle interiorly.

**Differential diagnosis.** *Suwaia* gen. nov. differs distinctly from other related genera in the following characters: i) anterior third of frons strongly arcuately receding in both sexes; ii) arista very sparsely plumose, palpi rectangular, very narrowed basally, in proximal half enlarged and apically rounded with four black bristles; iii) fore femora with one distinct bristle interiorly; iv) epiphallus short with lateral plates, from basal part of distiphallus prolate with two lateral membranous lobes (Figs. 7–8); and v) sternite 8 narrow without bristles (Fig. 9). Other key diagnostic characters, i.e., long apical bristle on the palpus, the shape of surstylus and the shape of female abdominal sternites are entirely different in both *Parallelomma* Becker, 1894 and *Megaphthalma* Becker, 1894 (see Comments below).

**Etymology.** I dedicate this genus to the Japanese dipterist Maasaki Suwa (Hokkaido University Museum, Sapporo). The gender is feminine.

**Comments.** HENDEL (1913) described and classified *Parallelomma longicornis* in the genus *Parallelomma* and VOCKEROTH (1977) placed it in the genus *Megaphthalma*. However, the species cannot be placed in either genus due to the combination of its diagnostic characters, including the newly recognized characters on male and female genitalia. Therefore, I establish for it a new genus, *Suwaia* gen. nov.

### *Suwaia longicornis* (Hendel, 1913) comb. nov.

(Figs. 5–9)

*Parallelomma longicornis* Hendel, 1913: 877.

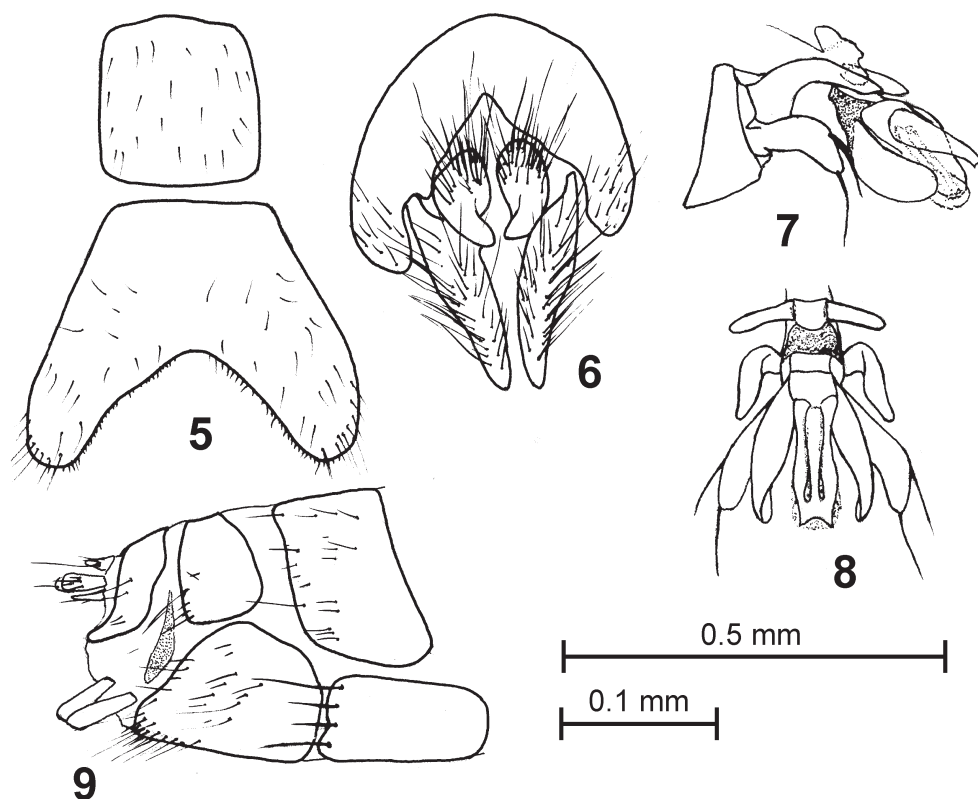
*Parallelomma longicornis*: VOCKEROTH (1977): 437.

**Type material examined.** HOLOTYPE: ♂, CHINA: TAIWAN: ‘Hoozan, Formosa, H. Sauter, 1911, 7.ii.// *Parallelomma longicornis* H., det. Hendel // Type [red label]’. PARATYPES: ♂, the same data as holotype, ‘Paratype [yellow label]’ / ‘Mus. Caes. Vindobon.’; ♂, ‘Chip Chip, 909, iii., Formosa, Sauter’; ♀, ‘Formosa, Sauter, Chip Chip, 909 / *Parallelomma longicornis*, det. Hend. / Type [red label]’; 1 ♂ 2 ♀♀ (1 ♂ 1 ♀ dissected), ‘Hoozan, Formosa, H. Sauter, 1911 / *Parallelomma longicornis*, det. Hendel / PARATYPE [yellow label]’ (all deposited in Naturhistorisches Museum, Wien, Austria).

**Note.** In the original description, HENDEL (1913) quoted: ‘11 ♂♂ aus Hoozan, 7, Februar’ [= 11 ♂♂ from Hoozan, 7<sup>th</sup> February]. It is evident from the data above that this information was not precise. All specimens were deposited in the collection of Naturhistorisches Museum in Wien, Austria. There is no specimen of this species in the Museum für Naturkunde der Humboldt-Universität (Berlin, Germany) (J. Ziegler, pers. comm.) but it is possible that the remaining four paratypes will be found in future.

**Redescription.** Body length 7–9 mm. Ground colour brown to red-brown.

**Head.** Two very fine frontal bristles; three orbital bristles, inner and outer bristles long and straight; frontal vitta, parafacials, face and genae yellow-brown; scapus and pedicellus brown with one short bristle; first flagellomere rounded apically, three times as long as wide, in apical half darkened; second aristomere distinctly cylindrical; arista very sparsely plumose;



Figs. 5–9. *Suwaia longicornis* (Hendel, 1913). 5–8 – ♂ paratype: 5 – abdominal sternites 4 to 5; 6 – cerci and surstyli (caudal view); 7 – pregonite and postgonite (lateral view); 8 – epiphallus, pregonites, postgonites and lateral membranous lobes (dorsal view). 9 – ♀ paratype, abdominal stenites 6 to 8 (lateral view). Scale bars: 0.5 mm (Figs. 5–6, 9), 0.1 mm (Figs. 7–8).

frons arcuately receding proximally; two strong peristomal bristles and one very short bristle between them; palpi yellow, much narrowed basally, slightly curved upwards and with four distinct black bristles; genae with one strong bristle. Each eye slightly but visibly concave posteriorly.

**Thorax.** Acrostichal bristles very fine, arranged in two rows; five dorsocentral bristles (3 + 2); four supraalar bristles; two humeral bristles; one presutural bristle; one intraalar bristle; two scutellar bristles; one katepisternal bristle. Wings slightly fumous and with brown veins, vein  $R_1$  without setae. Legs brown to yellow-brown, all femora dorsoapically black; fore femora with one distinct spine-like bristle on inner side and with a row of eight bristles dorsally.

**Abdomen.** Male. sternite 4 more or less square; lobes of sternite 5 short with very short spine-like bristles medially (Fig. 5); cerci basally wide, with dense hairs, apically pointed; surstyli short, with hairs pointed (Fig. 6). Pregonite with one apical and one dorsal bristles,

postgonite distinctly arcuately curved and pointed (lateral view), epiphallus short with two lateral plates (Fig. 7), base of distiphallus with two lateral membranous lobes reaching end of distiphallus (Fig. 8, dorsal view).

**Female.** Sternite 6 rectangular with four strong bristles caudally, sternite 7 wide and enlarged laterally upwards, sternites 8 narrow and smooth, without setae (Fig. 9, lateral view).

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