Three new species of the family Scathophagidae (Diptera) from the Palaearctic region with a redescription of the male of *Amaurosoma longicorne*

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Abstract. *Amaurosoma bernasconii* sp. nov., *Norellisoma vonickai* sp. nov. from the Czech Republic and *Microprosopa ozerovi* sp. nov. from Slovakia are described. The male of *Amaurosoma longicorne* (von Roser, 1840) from the Czech Republic is redescribed. Differential diagnoses of all mentioned species are given and important diagnostic characters are figured.

Key words. Diptera, Scathophagidae, *Amaurosoma*, *Microprosopa*, *Norellisoma*, taxonomy, new species, redescription, Palaearctic region, Czech Republic, Poland, Slovakia

Introduction

The Palaearctic genera *Amaurosoma* Becker, 1894, *Microprosopa* Becker, 1894, and *Norellisoma* Wahlgren, 1917, of the family Scathophagidae (Diptera) are represented by many valid species: *Amaurosoma* by 16, including the formerly dubious *A. longicorne* (von Roser, 1840) (ŠIFNER 2008), *Microprosopa* by eight (ŠIFNER 2008), and *Norellisoma* by 21 (HIRONAGA & SUWA 2005; ŠIFNER 2006, 2008).

Three additional species are described in this paper: *Amaurosoma bernasconii* sp. nov. (Czech Republic), *Microprosopa ozerovi* sp. nov. (Slovakia), and *Norellisoma vonickai* sp. nov. (Czech Republic). Moreover, I had the possibility to study the male of *Amaurosoma longicorne* (von Roser, 1840). The original description is very brief but the redescription by BECKER (1894) is adequate. The male of *A. longicorne* is redescribed here, based on the characters of the genitalia that are quite different from all hitherto described species of the genus, and regarded as a valid species.

Material and methods

The specimens were collected by several collectors (see below), mainly by sweeping and in one case by yellow pan traps. All Czech and Slovak localities are accompanied by the grid
mapping codes (EHRENDORFER & HAMANN 1965) according to ZELENÝ (1972) and PRUNER & MIKA (1996). The type material is currently deposited in the author’s private collection, which is to be deposited in the National Museum in Prague, Czech Republic. Double slashes (//) separate data on different labels.

**Taxonomy**

*Amaurosoma longicorne* (von Roser, 1840)
(Figs. 1-3)

*Cordylura longicornis* von Roser, 1840: 59


**Redescription.** Male. Body length 5 mm, primary colour black.

**Head.** Dark, orbits, parafacialia, frontal vitta and hind portion of head black, face, genae and narrow strip in front of frontal vittae yellow, three pairs of frontal setae, two pairs of orbital setae, scape, pedicel and entire antennae including bare arista black, aristomere 3 long, three times as long as basally wide, second aristomere only slightly prolonged. Palpi yellow with yellow hairs, vibrissal callus with one vibrissa, and genae in hind portion with yellow hairs.

**Thorax.** Acrostichal bristles sparse, three distinct katepisternal bristles, two scutellar bristles, other chaetotaxy standard, wings hyaline, all veins distinct, vein Cu₁+ 1A ends at wing margin. All legs yellow, meso- and metafemora slightly darkened dorsoapically, procoxae distinctly and conspicuously yellow.

**Abdomen.** Sternite 4 very short and wider than long, sternite 3 rectangular and proximally with an incision, lobes of sternite 5 long, straight, only apically slightly narrowed, basal inner portion of lobes distinctly enlarged and with short bristles at its medial edges (Fig. 1). Surstyli slightly arched, with short and fine bristles on inner side, cerci short (Fig. 2), praegonite straight and narrow, slightly broadened apically with one subapical bristle (Fig. 3).

Female unknown.

**Differential diagnosis.** *Amaurosoma longicorne* differs from the nearest species, *A. inerme* Becker, 1894, by the following characters: aristomere distinctly long, praegonite apically broadened with one subapical bristle, abdominal sternite 4 very short, and abdominal sternite 3 long with a proximal incision.

**Distribution.** Czech Republic (this paper), Germany (*von Roser* 1840).

**Discussion.** The type locality of this species is Germany, probably the environs of Württenberg (*von Roser* 1840). The holotype designation is unclear and its depository is unknown. The original Latin description of *C. longicornis* is very brief: ‘thorace cinereo, abdomine nigro, palpi albis; antennis longitudine capitis; pedibus flavis, posticis apice femorum et tibiarm fuscis’ [= thorax grey, abdomen black, palpi pale; antennae as long as head; legs yellow, tips of hind femora and tibiae darkened] (*von Roser* 1840). BECKER (1894) somewhat extended the original description, e.g. by stating: ‘femoribus anticus intus setis nullis’ [= fore femora without short bristles on its interior side], fronte prominente antice flava, antennis nigris longis angustis, vibrissa unica [= frons prominent and anteriorly yellow, antennae black,
Figs. 1-6. 1-3: *Amaurosoma longicorne* (von Roser, 1840); 4-6: *A. bernasconii* sp. nov., male, holotype. 1, 4 – abdominal sternites 4 and 5; 2, 5 – surstyli and cerci; 3, 6 – praegonite. Scale bars: 0.5 mm (Figs. 1-2, 4-5); 0.1 mm (Figs. 3, 6).
long and narrow, only one vibrissa]. An important fact mentioned in the German part of the redescription is: ‘...das zweite Borstenglied bei Männchen verlängert’ [= second article of arista in male prolonged...]. It is evident from Becker’s text that he had both sexes at hand (cf. BECKER 1894: 115).

I was able to examine the following four specimens, previously incorrectly identified as A. longicornis, from the Becker collection deposited in the Museum für Naturkunde, Berlin:


Only the male from Malšice (Czech Republic) corresponds to the Becker’s redescription and differs from all species of the genus Amaurosoma by the following characters: first aristomere long, praegonite broadened apically, and the shape of abdominal sternites 3-5 including lobes. I regard this species as valid.

**Amaurosoma bernasconii sp. nov.**

*(Figs. 4-7)*

**Type material.** **HOLOTYPE:** ♂, CZECH REPUBLIC: MORAVIA mer., Rokytná near Moravský Krumlov (6963), deciduous forest, 20.v.1986, F. Šifner leg. **ALLOTYPE:** ♀, same data as holotype (coll. Šifner).

**Description.** Body length 4-5 mm, primary colour black.

Head. Posterior portion of head dark and slightly grey dusted, orbits, upper part of parafacialia, and frontal vitta black, a strip in front of frontal vitta yellowish brown, entire antennae black, arista bare, second aristomere slightly prolonged, arista thickened to half of its length, face, lower part of parafacialia and genae yellowish white, palpi yellow without distinct hair bristles. Vibrissal callus with two bristles and one short bristle between them.

Thorax. Acrostichal bristles very sparse or almost absent, two scutellar bristles very long at their midlength arched outside, other chaetotaxy standard. All legs yellow, fore femora without short bristles at inner side, wings hyaline, all veins distinct and dark.

Abdomen. Male – sternite 3 narrow and long, sternite 4 rectangular and slightly narrowed proximally, lobes of sternite 5 straight, with short bristles medially (Fig. 4), surstyli only slightly arched, at inner side with bristles, cerci short and narrow (Fig. 5), praegonite narrow, slightly arched apically with one long, almost perpendicular, lateral bristle (Fig. 6). Female – sternites 4-6 long and rectangular, without distinct bristles, sternite 7 oval, wide, with an incision and four bristles caudally, sternites 8 small and pointed caudally (Fig. 7).

**Differential diagnosis.** *Amaurosoma bernasconii* sp. nov. differs from the related *A. brevifrons* in the following characters: *A. bernasconii* sp. nov. – male: abdominal sternite 4 rectangular, praegonite with one long, almost perpendicular, lateral bristle; female: abdominal sternite 7 oval with caudal incision (Figs. 4-7). *Amaurosoma brevifrons* – male: abdominal
sternite 4 oval, praegonite with two short bristles; female: abdominal sternite 7 oval, without incision.

**Etymology.** The species is dedicated to my colleague, Swiss entomologist and molecular biologist Marco V. Bernasconi (Zoologisches Museum, Universität Zürich, Switzerland).

**Distribution.** Czech Republic ( southern Moravia).

### Microprosopa ozerovi sp. nov.

**(Figs. 8-9)**

**Type material.** **Holotype:** ♂, SLOVAKIA: Pribylina (68-6984), 13.vii.1975, 900 m a.s.l., R. Rozkošný leg.


**Description.** Male. Body length 10 mm, primary colour dark brown.

- **Head.** Posterior portion dark brown, rest yellowish brown and whitish dusted, antennae including scape and pedicel yellow to yellowish red, arista bare, black and basally thickened. Vibrissal callus distinct, with 3-4 vibrissae together with 3-5 very short bristles, palpi yellow and slightly enlarged. Genae and lower part of head ‘bearded’ with long and very fine hairs.

- **Thorax.** Acrostichal bristles indistinct, two pairs of scutellar bristles of equal size, katepisternum bare, other chaetotaxy standard, wings darkened, all veins dark.

- **Abdomen.** Sternite 3 rectangular, slightly broadened caudally with small projection, sternite 4 more or less square with distinct incision proximally, both without distinct bristles. Sternite 5 with short lobes arcuately curved inwards, with dense very short bristles medially (Fig. 8), praegonite straight, broad and acutely pointed, beak-shaped, without bristles (Fig. 9).

Female unknown.

**Differential diagnosis.** Microprosopa ozerovi sp. nov. differs from the related *M. hoberlandti* Šifner, 1981, in the following characters: *M. ozerovi* sp. nov. – bristles between lobes of abdominal sternite 5 present, incision of abdominal sternite 4 distinct, praegonite beak-shaped (Figs. 8-9); *M. hoberlandti* – bristles between lobes of abdominal sternite 5 missing, abdominal sternite 4 oval, praegonite with two apical bristles (ŠIFNER 1981).

**Etymology.** This species is dedicated to my colleague and eminent Russian dipterologist Andrey L. Ozerov (Zoological Museum of the Lomonosov State University, Moscow, Russia).

**Distribution.** Northern Slovakia.

### Norellisoma vonickai sp. nov.

**(Fig. 10-11)**

**Type material.** **Holotype:** ♀, CZECH REPUBLIC: BOHEMIA bor., Jizerské hory Mts., Bukovec Mt. (5158) near the Jizerka settlement, 18.-20.vi.2007, wet meadow and forest edge, 950 m a.s.l., yellow pan traps, F. Šifner leg. (coll. Šifner).

**Description.** Female. Body length 6 mm, primary colour black.

- **Head.** Two orbital setae, three frontal setae, frontal vitta, parafacials, face and genae entirely yellowish red, antennae completely yellow, arista black and bare, only one vibrissal seta, palpi yellow, ocellar triangle and posterior portion of head black.
Figs. 7-11. 7: *Amaurosoma bernasconii* sp. nov., female, allotype, abdominal sternites 4 to 7. 8-9: *Microprosopa ozerovi* sp. nov., male, paratype; 10-11: *Norellisoma vonickai* sp. nov., female. 8 – abdominal sternites 3 to 5; 9 – praegonite; 10 – abdominal sternites 5 to 7; 11 – abdominal sternite 8. Scale bars: 0.5 mm (Figs. 8, 10); 0.1 mm (Figs. 7, 9, 11).
Thorax. Acrostichal setae almost invisible, fine dorsocentral setae (2 + 3), one humeral seta, one pair of discal scutellar setae, apical discal setae reduced to hairs. All femora and tibiae including all tarsomeres yellow, wings distinctly darkened but veins without longitudinal darkened coloration.

Abdomen. Sternite 7 divided into two separate sclerites which are irregularly sclerotized caudally and connected by membrane with minute sclerites, proximally with a separate small triangular sclerite, sternite 6 narrow, caudally straight and extended by narrow membrane and with distinct bristles laterally, sternite 5 with three pairs of fine bristles (Fig. 10), sternite 8 very short with six thorns, two apical ones small (Fig. 11).

Male unknown.

Differential diagnosis. The female of Norellisoma vonickai sp. nov. differs from all known species of the genus by the bare arista, very short abdominal sternite 8, and characteristic arrangement of the thorns.

Etymology. This species is dedicated to the Czech coleopterologist and my friend Pavel Vonička (Regional Museum of Northern Bohemia, Liberec, Czech Republic).

Distribution. Czech Republic (northern Bohemia).

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References
