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# New species of Scathophagidae (Diptera)

# Новые виды двукрылых семейства Scathophagidae (Diptera)

**A.L. Ozerov**
**А.Л. Озеров**

Zoological Museum, Moscow Lomonosov State University, Bol'shaya Nikitskaya 6, Moscow 125009 Russia. E-mail: ozerov2455@rambler.ru
Зоологический музей, Московский государственный университет им. М.В. Ломоносова, Большая Никитская ул., 6, Москва 125009 Россия.

KEY WORDS: Diptera, Scathophagidae, new species, *Gimnomera*, *Megaphthalmoides*, *Microprosopa, Norellisoma*, *Parallelomma*, *Scathophaga*, Azerbaijan, India, Japan, Kyrgyzstan, Nepal, Russia, Thailand.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Scathophagidae, новые виды, *Gimnomera*, *Megaphthalmoides*, *Microprosopa, Norellisoma*, *Parallelomma*, *Scathophaga*, Азербайджан, Индия, Киргизия, Непал, Россия, Таиланд, Япония.

ABSTRACT. Seven new species of Scathophagidae are described: *Gimnomera kirgizica* sp.n. from Kyrgyzstan, *Megaphthalmoides japonicus* sp.n. from Japan, *Microprosopa zlobini* and *Norellisoma flavostriatum* spp.n. from Russia, *Norellisoma nigrovenosum* sp.n. from Azerbaijan, *Parallelomma merzi* sp.n. from Thailand and *Scathophaga calceata* sp.n. from India and Nepal. The name *Megalophthalmus* Strobl, 1894 is a new junior synonym of the *Megaphthalmoides* Ringdahl, 1936. *Scathophaga eoa* Ozerov, 2007 is a new junior synonym of the *S. mellipes* Coquillett, 1899. *Norellia longiabdomina* Sun, 1992 transferred from *Norellia* Robineau-Desvoidy, 1830 to *Cordilura* Fallén, 1810 (subgen. *Cordilurina*).

РЕЗЮМЕ. Дано описание 7 новых видов двукрылых семейства Scathophagidae: *Gimnomera kirgizica* sp.n. из Киргизии, *Megaphthalmoides japonicus* sp.n. из Японии, *Microprosopa zlobini* и *Norellisoma flavostriatum* spp.n. из России, *Norellisoma nigrovenosum* sp.n. из Азербайджана, *Parallelomma merzi* sp.n. из Таиланда и *Scathophaga calceata* sp.n. из Индии и Непала. Название *Megalophthalmus* Strobl, 1894 есть новый младший синоним *Megaphthalmoides* Ringdahl, 1936. *Scathophaga eoa* Ozerov, 2007 есть новый младший синоним *S. mellipes* Coquillett, 1899. *Norellia longiabdomina* Sun, 1992 переведен из рода Robineau-Desvoidy, 1830 в род *Cordilura* Fallén, 1810 (subgen. *Cordilurina*).

## Introduction

The Scathophagidae is a small family of calyptrate Diptera with the following combination of characters: eyes dichoptic in both sexes, separated by a broad frontal vitta in males as well as in females; frontal vitta without setae; lower calypter linear; meron bare, without setae; ventral surface of scutellum without hairs.

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The greatest diversity of the Scathophagidae is found in the northern hemisphere, on the coasts of the arctic oceans, and in the tundra and taiga zones. Many species are also known from the alpine zone in mountainous regions.

The world fauna currently comprises a little over 350 species in 49 genera [Vockeroth, 1977, 1980, 1987, 1995; Albuquerque, 1984; Šifner, 2008]. Some 340 species in 48 genera are recorded from the Holarctic: of these, 90 species are known only from the Nearctic region, 194 species are known only from the Palaearctic region, and 58 species are common to both regions. Four *Scathophaga* species are recorded from the Afrotropical region. The Oriental fauna contains 4 species in 4 genera. The endemic monotypic genus *Scatogera* Albuquerque, 1984 and 5 *Scathophaga* species are known from the Neotropics. No Scathophagidae are known to occur in Australia and Oceania.

The collection of Scathophagidae in the Tel-Aviv University, Israel (TAU) and the Muséum d'Histoire Naturelle, Geneva, Switzerland (MHNG), as well as materials of Scathophagidae collected in 2008 in the Zoological Museum, Moscow University (ZMUM) was examined. 7 new species for science were found. The descriptions of these species are given below.

## Descriptions of new species

*Gimnomera kirgizica* Ozerov, **sp.n.**
Fig. 1.

MATERIAL. Holotype ♂ (MHNG), "KYRG.[YZSTAN:] 2365 m SW IssykKul area Ala Bash pass 13.VII.[19]94/Milko [leg.]". The holotype is pinned and in good condition.

Paratypes: 1 ♂, 2 ♀♀ (MHNG, ZMMU), same label as holotype; 1 ♀ (MHNG), "KYRG.[YZSTAN:] Sarydzhaz Enilcek rg 3000 m 42.1N/79.4E 18.VII.[19]94/Korneev [leg.]".

DESCRIPTION. Completely yellow species (head, thorax, abdomen, legs). Length of body 4.5–6.9 mm. Length of wing 4.4–5.5 mm.

MALE, FEMALE. Head and gena matt. Face and parafascials with white pollinose. Postcranium subshining.


Figs 1–3. *Gimnomera* spp., epandrium and surstyli, dorsal view: 1 — *G. kirgizica* sp.n.; 2 — *G. dorsata* (Zetterstedt); 3 — *G. hirta* Hendel.

Рис. 1–3. *Gimnomera* spp., эпандрий и сурстили, сверху: 1 — *G. kirgizica* sp.n.; 2 — *G. dorsata* (Zetterstedt); 3 — *G. hirta* Hendel.

Head with 2 orbital, 2–4 frontal, 1 ocellar, 1 postocellar (short and thin, divergent), 1 inner vertical (long), 1 outer vertical setae; 1 pair of vibrissae. Postpedicel rounded apically, approximately 2.0 times as long as wide. Arista black, short haired on whole length. Palpus filiform, without apical seta.

Thorax. Scutum and scutellum shining. Lateral sides greyish pollinose. Scutum with 1 postpronotal, 2 notopleurals, 1+2 intra-alars, 2 postalars, 2+1 dorsocentrals (anterior margin of scutum also with 2 erect black setae); all setae of scutum black; 1 proepisternal (pale), 1 proepimeral (pale), 2 anepisternal (black, near posterior margin) and 1 long katepisternal (black, in upper posterior corner) setae present. Postpronotal lobes with hairs anteriorly. Proepisternum with pale hairs. Anepisternum with pale hairs near posterior margin. Katepisternum with pale hairs. Anepimeron without hairs. Scutellum with 2 pairs of strong setae.

Legs. Fore femur with 4–5 *p*(*pd*). Fore tibia with 1–2 *p*, 1 *d*, 1 *a*, 1 preapical *d* (*pd*) and apicals *a*, *p*, *v*. Mid femur with row of *a*(*ad*) and 2 preapicals *pd*. Mid tibia with 1 *d*, 1 p, 1 *ad* in centre and apicals *v* and *pv*. Hind femur with row of *ad*. Hind tibia with 1 pd, 2 *ad*, 1 preapical *d*, and apicals *a*, *p* and *v*.

Wing clear, with brownish veins. $R_1$ bare. Calypters and their margins yellow. Haltere yellow.

Abdomen shining, covered with pale hairs. Female abdominal tergites narrow browhish near posterior margin. Male epandrium and surstyli as in Fig. 1.

COMPARISON. The new species is more similar to *Gimnomera hirta* Hendel, 1930 and *G. dorsata* (Zetterstedt, 1838) by color of body, but differs by structure of male epandrium and surstyli (see Figs 1–3).

## *Megaphthalmoides japonicus* Ozerov, **sp.n.**
Figs 4, 6–8.

MATERIAL. Holotype ♂ (TAU), JAPAN: Osaka Prefecture, 800 m, Izumi Katswiagi, 24.IX.1993, A.Freidberg & F. Kaplan. The holotype is pinned, last abdominal segments dissected and stored in glycerine in microvial pinned with the specimen; the condition is otherwise good.

Paratype: ♀ with at same label as holotype (TAU).

DESCRIPTION. Length of body 8.1–10.1 mm. Length of wing 8.2–9.5 mm.

MALE. Head reddish-yellow, thinly greyish pollinose, higher than wide in profile; frons matt. Head with 3 orbital, 3–4 frontal, 1 ocellar, 1 postocellar (divergent), 1 inner vertical, 1 outer vertical, 2 postgenital setae; 2 pairs of vibrissae. Antenna reddish-yellow. Postpedicel rounded apically, approximately 3–3.5 times as long as wide. Arista yellowish basally and black apically, long haired on whole length. Palpus filiform, yellow.

Thorax and scutellum brownish, thinly greyish pruinose, scutum between dorsocentral setae with 3 blackish stripes. Scutum with black 2 postpronotal, 2 notopleural, 1+2 intra-alar, 1+2 supra-alar, 2 postalar, 2+3 dorsocentral, 1 acrostichal setae; 1–2 proepisternal (pale), 1 proepimeral (pale), 4 anepisternal (black, near posterior margin) and 1 long katepisternal (black, in upper posterior corner) setae present. Proepisternum and anepisternum with pale hairs. Katepisternum with pale hairs in posterior half. Anepimeron without hairs. Scutellum with 2 pairs of strong setae.

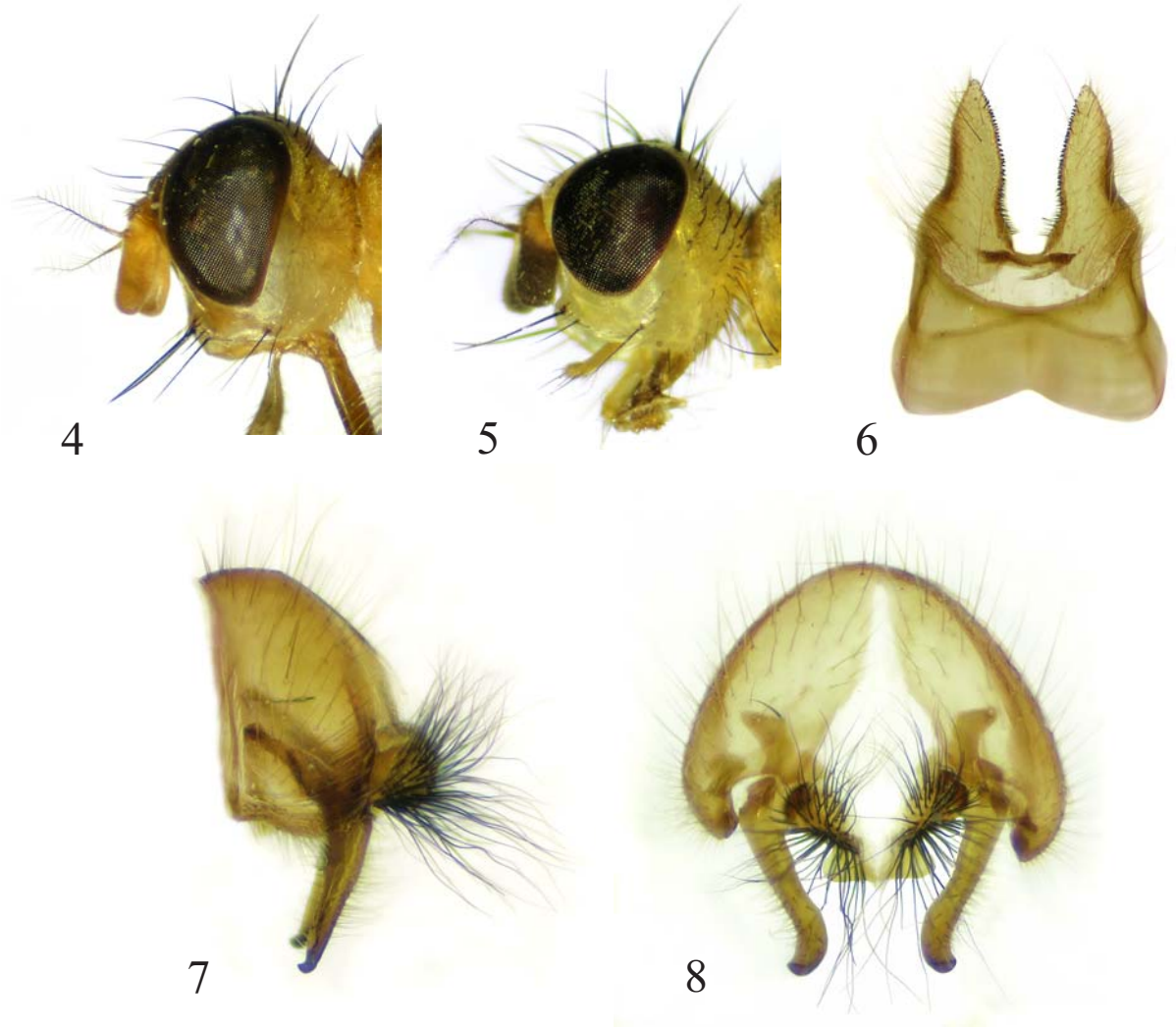
Legs yellow. Fore femur with row of *d* and 3 *a*, with long pale hairs ventrally. Fore tibia with 3 *d*, preapicals *d* and *pd*, with long pale hairs posteroventrally. Mid femur with row of *a*, 2 preapical *pd*, with numerous pale hairs and row of long pale hair-like setae ventrally. Mid tibia with 2 *pd*, 1 *ad* and ring of apicals. Hind femur with row of *ad* and 1 preapical *pd*. Hind tibia with 3 *pd*, 3 *ad*, 1 preapical *ad* and 1 apical *av*.

Wing with a brownish tinge, without dark spots; veins brown. $R_1$ bare. Calypters, their margins and haltere brownish.

Abdomen brownish, subshining, tergites blackish dorsally. Male sternite 5 as in Fig. 6. Epandrium and surstyli as in Figs 7, 8.

FEMALE. Resembling male. Scutum between dorsocentral setae blackish completely. Proepisternal and proepimeral setae black; two lower anepisternal setae pale; anepisternum with short black straight hairs.

Fore femur with row of *d*, 3 *pd*, 2–3 *a*, and row of long and thin black hair-like setae ventrally. Fore tibia with 3 *d* and 1 *p*, preapicals *d* and *pd*. Mid femur with row of *a*, 2 preapical *pd*, and row of long black hair-like setae ventrally. Mid tibia with 3 *pd*, 1 *ad* and ring of apicals. Hind femur with




Figs 4–8. *Megaphthalmoides japonicus* sp.n. (4, 6–8) and *Megaphthalmoides unilineatus* (Zetterstedt) (5): 4, 5 — head, laterally; 6 — male sternite 5; 7 — epandrium and surstyli, lateral view; 8 — same, dorsal view.

Рис. 4–8. *Megaphthalmoides japonicus* sp.n. (4, 6–8) и *Megaphthalmoides unilineatus* (Zetterstedt) (5): 4, 5 — голова, сбоку; 6 — стернит V самца; 7 — эпандрий и сурстили, сбоку; 8 — тоже, сверху.

rows of *ad* and *av*, and 2 *pv*. Hind tibia with 3 *pd*, 3 *ad*, preapicals *d* and *ad*, and 1 apical *av*.

COMPARISON. The only single species from this genus, *M. unilineatus* (Zetterstedt, 1838) is known, which has rounded head in profile (Fig. 5), darkened postpedicel, short haired arista, 2 orbital setae, only two anepisternal setae. New spesies has head, height of which more than width (Fig. 4), yellow postpedicel, long haired arista, 3 orbital setae and 4 anepisternal setae. *M. japonicus* also well differs from *M. unilineatus* by the structure of male sternite 5 and genitalia.

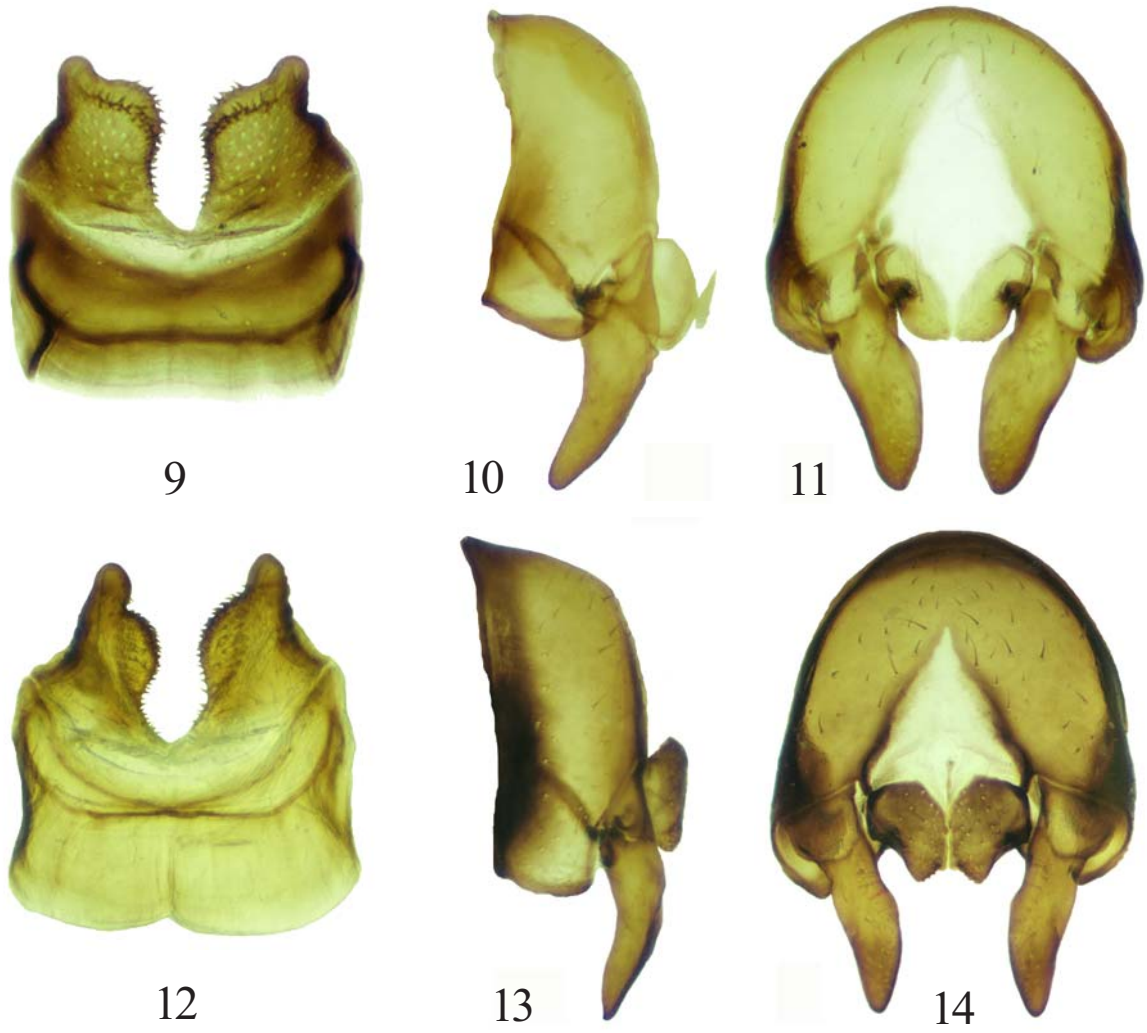
NOTE. Strobl [1894: 77] described the genus *Megalophthalmus* (as a subgenus of *Cordilura* [as *Cordylura*] Fallén, 1810) and included two species, *Cordylura pallida* Fallén, 1819 and *C. unilineata* Zetterstedt, 1838, but no type species has subsequently been designated. A short time after this, Becker [1894] described the genus *Megaphthalma* with the type-species *Cordylura pallida* Fallén, 1819. Strobl [1898: 254] synonymized *Megalophthalmus* with *Megaphthalma* Becker, but this action is not valid. Ringdahl [1936: 176] described the genus *Megaphthalmoides* with the type species *Cordylura unilineata* Zetterstedt, 1838.

It is fortunate *Megalophthalmus* is preoccupied in Crustacea [Leach, 1830: 177], and a type species designation for Strobl's name will not affect current nomenclature. I herewith formally designate *Cordylura unilineata* Zetterstedt, 1838 as type species of *Megalophthalmus* Strobl,1894. The name *Megalophthalmus* Strobl,1894, which is a junior homonym of *Megalophthalmus* Leach, 1830, now becomes a new junior synonym of the genus *Megaphthalmoides* Ringdahl, 1936.

One unnamed species from Nepal is recorded in the CDO by Vockeroth [1987] in the genus *Megaphthalmoides*.

### *Microprosopa zlobini* Ozerov, **sp.n.**
Figs 9–11.

MATERIAL. Holotype ♂, Russia: North Ossetia, environs of Buron (Tsey gorge [42.793055°N, 43.922161°E, alt. 1764




Figs 9–14. *Microprosopa zlobini* sp.n. (9–11) and *Microprosopa pallidicauda* (Zetterstedt) (12–14): 9, 12 — male sternite 5; 10, 13 — epandrium and surstyli, lateral view; 11, 14 — same, dorsal view.

Рис. 9–14. *Microprosopa zlobini* sp.n. (9–11) and *Microprosopa pallidicauda* (Zetterstedt) (12–14): 9, 12 — стернит V самца; 10, 13 — эпандрий и сурстили, сбоку; 11, 14 — тоже, сверху.

m]), 4.VII.1990, coll. A.L. Ozerov [label written in Russian] (ZMUM). Paratypes: 13 ♂♂, 3 ♀♀, same place, 6 and 7.VI.1989, 3 and 4.VII.1990, leg. A.L. Ozerov (ZMUM); 1 male, "[Switzerland:] Helv. VS 1300 m, Morgins-En Tey, 22.VI.2003, leg. B. Merz" (MHNG).

DESCRIPTION. Length of body 4.6–5.9 mm. Length of wing 4.5–5.8 mm.

Male. Head. Frons reddish-yellow, matt, with greyish pollen along margin of eye. Ocellar triangle black, with grey pollen. Parafacial and face blackish in upper half; face white in lower half. Gena pale yellow, not shining; with several pale setae along lower margin. Postcranium black, grey pollinose, with numerous pale hairs in lower half. Head with 3 orbitals, 2–3 frontals, 1 ocellar, 1 postocellar (short and thin, weakly divergent), 1 inner vertical, 1 outer vertical setae; 1 pair of vibrissae. All setae black except for yellow to black vibrissae. Scape and pedicel dark brown to black. Postpedicel black, rounded apically, approximately 2.0 times as long as wide. Arista black, basally thickened and short haired, apically bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, with grey pollen. Scutum with 2 postpronotals, 2 notopleurals, 1+2 supra-alars, 1+1 intra-alars, 2 postalars, (2–3)+3 dorsocentrals (anterior margin of scutum also with 2 erect black setae), acrostical hairs in two rows; 1 proepisternal (pale), 1 proepimeral (pale), 2–3 anepisternal (black, near posterior margin) and 1 katepisternal (black, in upper posterior corner) setae present. Proepisternum with hairs in anterior half. Anepisternum with pale hairs in posterior half. Katepisternum with pale hairs, which are absent in upper anterior part. Anepimeron without hairs. Scutellum with 2 strong basal and 2 strong apical setae.

Legs. Fore coxa yellow, mid and hind coxae black with grey pollen. Femora, tibiae and tarsi of all legs yellow. All femora with numerous yellow hairs, with a row of *a* in which apical setae are black and basal setae yellow. Mid femur additionally with 1–2 preapical *p*. Fore tibia with a row of short strong *av* on whole length, with 1 *d* near middle, with 1

preapical *d* and apicals *ad* and *pd*. Mid tibia with 1 *ad* and with 1 *p* near middle, apicals *av*, *pv* and *d*. Hind tibia with 2–3 *ad*, 1–2 *pd*, 1 preapical *d* and apicals *ad* and *pv*.

Wing tinged with brownish; veins brownish. $R_1$ bare. Calypters and their margins yellowish. Haltere yellow.

Abdomen black, greyish pruinose, covered with pale hairs, tergites 5–7 along posterior margin with a row of thin black setae. Sternite 5 as in Fig. 9. Epandrium brownish. Epandrium and surstyli as in Figs 10–11.

Female. Resembling male. Parafacial yellowish. Face yellowish-white. Fore femur brownish anterodorsally. Abdomen black, greyish pruinose, tergites 3–6 along posterior margin with a row of thin black setae. Tergites 6–8 reddish.

COMPARISON. The new species is similar to *Microprosopa pallidicauda* (Zetterstedt, 1838). These species differ from each other clearly in the structure of the male abdominal sternite 5 (Figs 9, 12) and surstyli (Figs 10–11, 13–14). In *M. zlobini* female abdominal tergites 3–6 completely greyish pruinose. In *M. pallidicauda* female abdominal tergites have tergite 6 completely or almost completely shiny, tergites 7 and 8 completely shiny, tergites 3–5 as a rule shiny near lateral margin (when the abdomen is viewed from below).

NOTE. Ringdahl [1936: 176, Figs 1a–b] was the first to illustrate the genitalia and 5th male sternite of *M. pallidicauda*. Šifner gave very different characters and figures of the 5th male sternite for this species in his Review of Scathophagidae of the Czech and Slovak Republics [Šifner, 2003, P. 41–42, Fig. 191] but this was clearly an error. *M. pallidicauda* sensu Šifner is not only another species but apparently belongs to another genus for it has only 1 pair of scutellar setae (all known species of *Microprosopa* are characterized by 2 pairs of scutellar setae).

ETYMOLOGY. The species is named in the honour of the Russian dipterist Dr. Vladimir V. Zlobin, who made substantial contributions to the study of Agromyzidae.

DISTRIBUTION. North Caucasus (Tsey gorge, North Ossetia, Russia) and Alps (Morgins-En Tey, Switzerland).

## *Norellisoma flavostriatum* Ozerov, **sp.n.**
Figs 15–17.

MATERIAL. Holotype ♂ (ZMMU), RUSSIA: Sochi, environs Estosadok, Mt. Psechako subalp. (43°41'28"N, 40°22'E), 14–18.VI.2008 K. Tomkovich leg. [label written in Russian]. The holotype is pinned, last abdominal segments dissected and stored in glycerine in microvial pinned with the specimen; the condition is otherwise good.

DESCRIPTION. Length of body 4.8 mm. Length of wing 4.3 mm.

MALE. Head yellow, only ocellar triangle and lateral occipital sclerites in upper half black. Frons, face, gena and postcranium whitish pollinose. Head with 2 orbital, 2 frontal, 1 ocellar, 1 postocellar (short and thin, divergent), 1 inner vertical (long), 1 outer vertical setae; 1 pair of vibrissae. Antenna yellow. Postpedicel rounded apically, approximately 2 times as long as wide. Arista yellowish, moderate haired in basal half, apically bare. Palpus filiform, yellow.

Thorax yellow in ground colour, thinly greyish pruinose, only anepimeron, katatergite, anatergite and mediotergite black; scutum black with yellow stripe between dorsocentral setae. Scutellum yellow. Scutum with 1 notopleural, 0+2 intra-alars, 1 postalar, 1+1 dorsocentrals; proepisternum and proepimon with pale hairs only, without setae; 1 anepisternal (black, near posterior margin) and 1 long katepisternal (brown, in upper posterior corner) setae present. Anepisternum and katepisternum with pale hairs in posterior half. Anepimeron without hairs. Scutellum with 1 pair of strong setae.

Legs yellow, with pale hairs. Fore femur with row of very long *pv* and row of short *av*, with long hairs dorsally at base. Fore tibia with row of long *pv* and row of almost at same *av*, 2 *ad* and 1 *pd* in basal half, 1 preapical *d*. Mid femur with row of thin *a*, 1 *av* in apical third, 1 preapical *pd*. Mid tibia with row of long hair-like *p*, 2 *pd*, 1 *ad*, 1 *v*, 1 preapical *d* and apicals *v*, *av*, *pv*. Hind femur with row of thin *ad*, 1–2 *av* in apical quarter. Hind tibia with 2 *d* (*pd*), 2 *ad*, 1 *av*, 1 preapical *d* and 1 apical *pd*.

Wing with a whitish tinge, blackish apically near apex of viens $R_{2+3}$ and $R_{4+5}$. Veins brown. $R_1$ bare. Calypters, their margins and haltere yellowish.

Abdomen black, thinly greyish pruinose. Sternite 5 as in Fig. 15. Epandrium and surstyli as in Figs 16, 17.

FEMALE unknown.

COMPARISON. The species is distingished easily from the other species by the next combination of characters: 1 *npl*, scutum black with brownish stripe between dorsocentral setae, *av* and *pv* setae on fore femur yellow, katepisternum yellow.

NOTE. The colour of scutum of *N. flavostriatum* the same as in species, described as *Norellia longiabdomina* Sun, 1992. I discovered one specimen of *longiabdomina* among the materials from Japan sent me by Dr. Freidberg (1 ♀, JAPAN: Kyoto, Kibune, 200–450 m, 26.IX.1993, F.Kaplan & A.Freidberg). Although this species has rows of long *av* and *pv* on fore femora and tibiae, but also with long apical seta on palpus, with 2 pairs of setae on scutellum, with long-haired arista and belongs to the genus *Cordilura* Fallén, 1810 (subgen. *Cordilurina*) (**comb. n.**) undoubtedly, not to *Norellia* Robineau-Desvoidy, 1830 [Sun, 1992] or *Norellisoma* Wahlgren, 1917 [Šifner, 2008].

## *Norellisoma nigrovenosum* Ozerov, **sp.n.**
Figs 18–21.

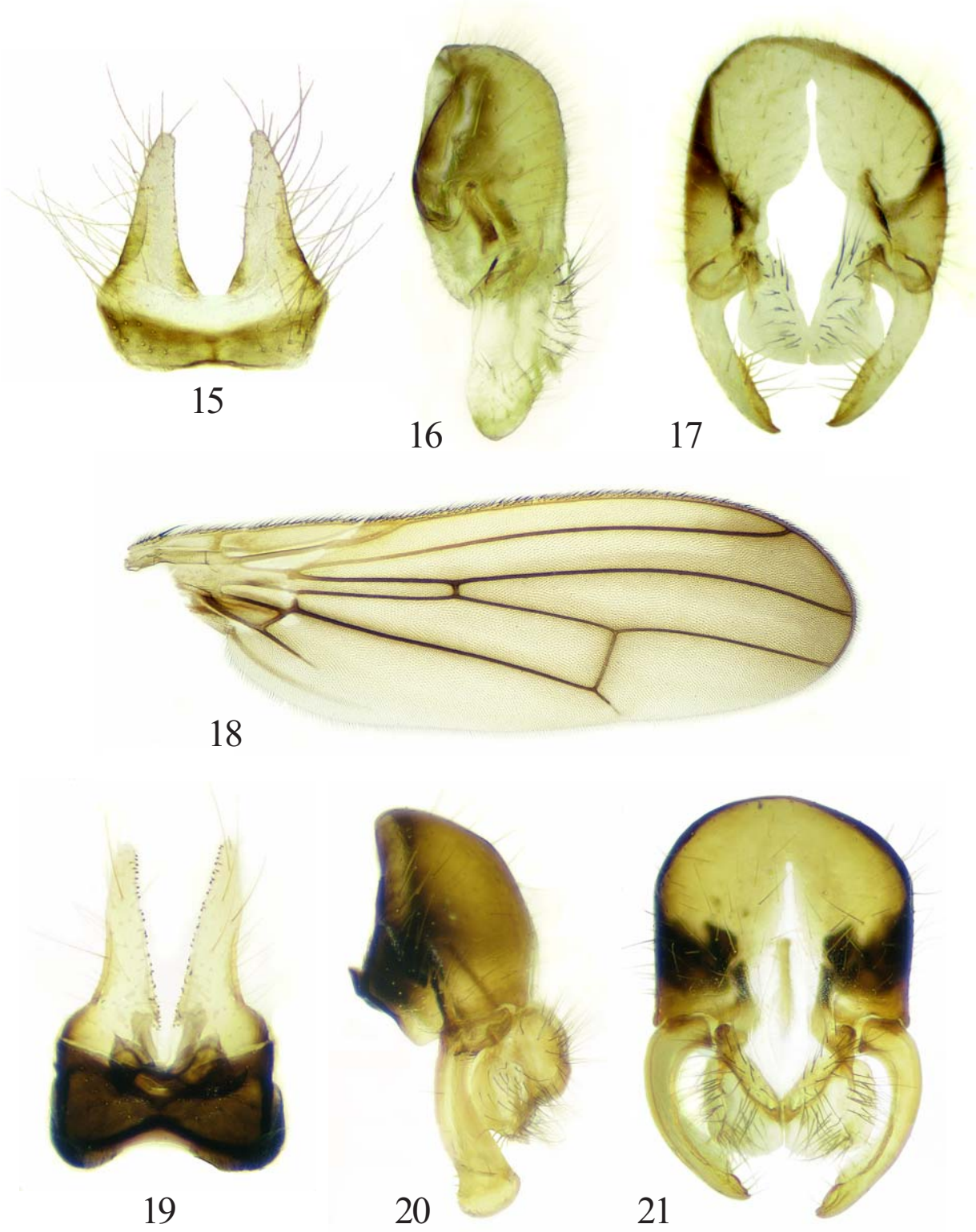
MATERIAL. Holotype ♂ (ZMUM), AZERBAIJAN: Lenkoran' Distr., Burdzhaly (38.65855°N, 48.7793°E), 27.X.2008, D.Gavryushin leg. [label written in Russian]. The holotype is pinned, last abdominal segments dissected and stored in glycerine in microvial pinned with the specimen; the condition is otherwise good.

Paratypes: 3 ♀♀ (ZMUM), same label as holotype; 1 ♀ (ZMMU) "Azer. ~ Lenkoran, ~ Khanbulan, 25 Oct 2008, N. Vikhrev".

DESCRIPTION. Length of body 5.1–6.8 mm. Length of wing 4.5–5.0 mm.

MALE, FEMALE. Head yellow, gena reddish-yellow, postcranium in upper half black. Frons matt; face, gena and postcranium greyish pollinose. Head with 2 orbital, 2 frontal, 1 ocellar, 1 postocellar (short and thin, divergent), 1 inner vertical (long), 1 outer vertical setae; 1 pair of vibrissae. Antenna yellow. Postpedicel blackish around base of arista, rounded apically, approximately 2 times as long as wide. Arista black, short haired on whole length. Palpus filiform, yellow.

Thorax and scutellum usually black, thinly greyish pruinose, scutum between dorsocentral setae with stripe of grey pollen; sometimes scutum and lateral scerites with brownish spots or scutum with three brownish stripes. Scutum with 1 postpronotal, 1 notopleural, 1+2 intra-alars, 2 postalars, 2+3 dorsocentrals (anteriors before and behind of suture thin); 1 proepisternal (black), proepimeral present (normal or hair-like, black or pale) or absent, 1 anepisternal (black, near posterior margin) and 1 long katepisternal (black, in upper posterior corner) setae present. Proepisternum with hairs.




Figs 15–21. *Norellisoma flavostriatum* sp.n. (15–17) and *Norellisoma nigrovenosum* sp.n. (18–21): 15, 19 — male sternite 5; 16, 20 — epandrium and surstyli, lateral view; 17, 21 — same, dorsal view; 18 — wing.

Рис. 15–21. *Norellisoma flavostriatum* sp.n. (15–17) и *Norellisoma nigrovenosum* sp.n. (18–21): 15, 19 — стернит V самца; 16, 20 — эпандрий и сурстили, сбоку; 17, 21 — тоже, сверху; 18 — крыло.

Anepisternum and katepisternum with pale hairs in posterior half. Anepimeron without hairs. Scutellum with 1 pair of strong setae.

Legs yellow, only mid and hind femora near apex with black spot dorsally. Male femora and tibiae with more long hairs than in female. Fore femur with row of long *pv* and row of short *av*. Fore tibia with row of long *pv* and row of short *av*, 1–2 *d* and 1 *pd* in basal half, 1 preapical *pd*. Mid femur with row of thin *a*, 1–2 *av* in apical third, 2 preapical *pd*. Mid tibia with 1–2 *pd*, 1 *p*, 1 *ad*, 1 *v*, 1 preapical *d* and apicals *v*, *av*, *pv*. Hind femur with row of thin *ad*, 1–2 *av* in apical quarter and 2 preapical *pd*. Hind tibia with 2–3 *pd*, 1–2 *ad*, 1 *av*, 1 preapical *d* and 1 apical *pd*.

Wing slightly darkened, blackish apically along viens $R_{2+3}$, $R_{4+5}$ and M (Fig. 18). Costal, subcostal and $R_1$ veins yellow, remainder blackish. $R_1$ bare. Calypters and their margins white. Haltere yellowish.

Abdomen black, mostly shining, tergites thinly greyish pruinose dorsally. Male sternite 5 as in Fig. 19. Epandrium and surstyli as in Figs 20, 21.

COMPARISON. The new species is more similar to *Norellisoma alpestre* (Schiner, 1864) by color of wing and male sternite 5, but easily differs from it by only one pair of notopleural setae.

## *Parallelomma merzi* Ozerov, **sp.n.**
Figs 22–25.

MATERIAL. Holotype ♂, "N. Thailand 1720 Chiang Mai Prov., Huai Nam Dang NP 18 kme E Pai", "19.31N/ 98.60E 22.X.2000 Merz & Schwendinger leg." (MHNG). The holotype is pinned, right wing and last abdominal segments dissected and stored in glycerine in microvial pinned with the specimen; the condition is otherwise good.

DESCRIPTION. Length of body 3.7 mm. Length of wing 4.2 mm.

MALE. Head black, only gena, postgena, lower part of postcranium, proboscis and palpi yellow. Frons matt, but shining along margin of eye. Head with 2 orbital, 2 frontal, 1 ocellar, 1 postocellar (divergent), 1 inner vertical (long), 1 outer vertical setae; 1 pair of vibrissae; palpus with long apical seta. Antenna black. Postpedicel rounded apically, approximately 1.5 times as long as wide. Arista black, moderately haired on whole length.

Thorax. Scutum and scutellum black, subshining. Anepisternum, anepimeron, katatergite, anatergite and mediotergite black; other parts of thorax pale yellow. Scutum with 2 notopleurals, 0+1 intra-alars, 1 postalar, 1+3 hair-like dorsocentrals; 1 proepisternal (black), 1 proepimeral (pale), 2–3 anepisternal (black, near posterior margin, the upper long) and 1 long katepisternal (black, in upper posterior corner) setae present. Proepisternum without hairs. Anepisternum with pale hairs in posterior half. Katepisternum with pale hairs. Anepimeron without hairs. Scutellum with 1 pair of strong setae.

Legs. All coxae and femora yellow, mid and hind femora with black ring apically; all tibiae blackish and all tarsi black. All femora with pale yellow or black hairs, without striking setae; all tibiae with black hairs. Fore tibia with 1 *ad* and 1 *pd* (*p*). Mid tibia with apicals *ad* and *pv*. Hind tibia with 1–2 *ad*, 1 preapical *d* and apical *pv*.

Wing clear, blackish apically (Fig. 22); veins blackish. $R_1$ bare. Calypters and their margins blackish. Haltere yellow.

Abdomen black, shining; tergite 1+2 with 6 discal marginal and 2 lateral marginal setae, tergites 3–5 each with 2 lateral marginal setae. Sternite 5 as in Fig. 23. Epandrium and surstyli as in Figs 24, 25.

FEMALE unknown.

COMPARISON. The new species is distinguished easily from the other species by black face, blackish apically wing and completely black antenna.

ETYMOLOGY. The new species is named in the honour of the Swiss dipterist Dr. Berhard Merz, who collected holotype and registered it as a first scathophagid fly for Thailand [Papp et al., 2006: 224].

## *Scathophaga calceata* **sp.n.**
Figs 26–28.

MATERIAL. Holotype ♂ (TAU), NEPAL: Annapuma Conservat. Area Bagarchhap, 2160 m, 26.ix.2001, G. & I. Günter". Paratype ♀ (TAU), INDIA: Meghalaya, Shillong, pine forest near ZSI station, 1700m, 6.xi.2002, A.Freidberg.

DESCRIPTION. MALE. Front reddish-yellow, blackish along margin of eye, matt. Gena, parafacial and face yellow, with goldish pollen. Ocellar triangle black. Postcranium blackish, with greyish (along eyes with golden) pollen. Scapus and pedicel reddish-yellow, postpedicel blackish. Palpus yellow. Frontal vitta bare. Head with 5–7 frontal, 3 orbital, 1 ocellar, 1 postocellar (divergent), 1 outer vertical, and 1 inner vertical setae. Postcranium with short black setae and hairs in upper part and fine long yellow hairs in lower part. Gena with several setae along lower margin (yellow to black). 4 vibrissae present. Postpedicel rounded apically, approximately 3.0 times as long as wide. Arista shortly haired on whole length. Palpus long, narrow and gradually somewhat widening towards apex, with yellow hairs and black (apical) setulae.

Thorax black, with greyish pollen. Scutum with hardly visible stripes. Anepimeron, katatergite, anatergite, mediotergite, meron, katepimeron, and metepisternum bare; the rest pleural sclerites with long yellow hairs. Scutum with 2 postpronotal, 2 notopleural, 1+3 supra-alar, 0+2 intra-alar, 2 postalar, 2+3 dorsocentral, 1 acrostichal setae; acrostical hairs in two rows; proepisternal and proepimeral as hairs, not differ from around hairs; anepisternum with 3 black setae near upper posterior corner; katepisternum with 1 strong seta in upper posterior corner. Scutellum with 2 strong basal, 2 strong apical, and with 2 hair-like discal setae. Posteroventral area of thorax with narrow sclerotized bridge behind and above hind coxae between metepimera.

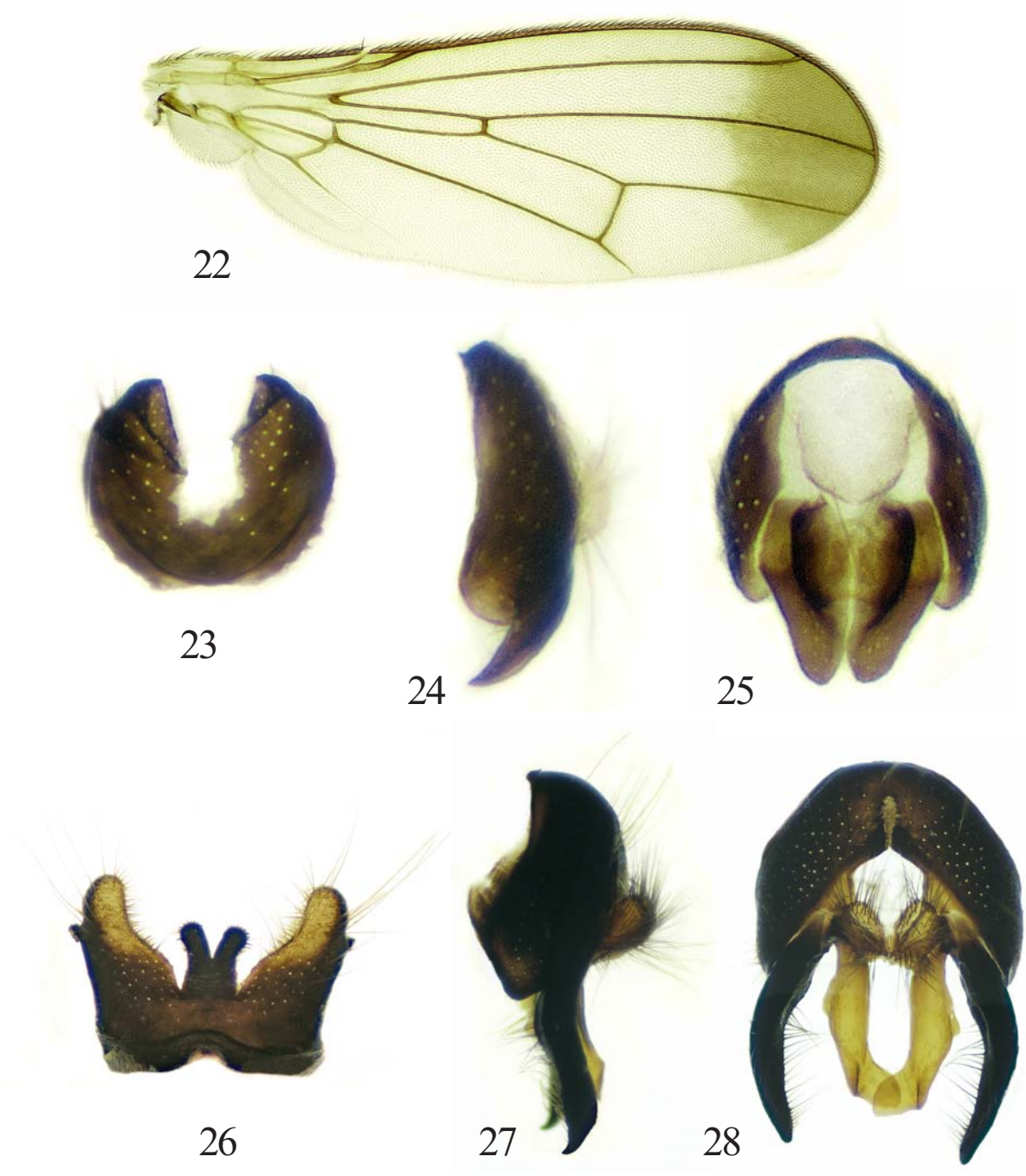
Legs yellow, only first femur blackish dorsally. Femora and tibiae with numerous yellow hairs; first femur with 1 *pd* at middle; mid femur with 3 *a* in apical half and apical *pd* and *p*; mid tibia with 1 *p*, 2 *d* and ring of apicals; hind femur with row of *ad* in apical half; hind tibia with 3 *ad*, 3–4 *pd*, preapical *ad* and *pd*, and apical *p*.

Wing tinged with brownish, without clouding on crossveins; veins brownish. Haltere yellow.

Abdomen black, greyish pruinose, with numerous yellow hairs, without setae. Male sternite 5 as in Fig. 26. Epandrium with numerous yellow hairs; cercus boot-like in dorsal view; surstyli long (Figs 27, 28).

Length of body 11.8 mm, length of wing 11.0 mm.

FEMALE. Differs from the male as follows: 2 black postgenital setae present; postpedicel about 2.0 times as long as wide; scutum with (2–3)+3 dorsocentral setae. Femora and tibiae with yellowish or blackish hairs, shorter than in male; first femur with row of *pd*, first tibia with 3 *ad*, 2 *p* and preapical *d*; mid femur with row of *a* on whole length; mid tibia with 1 *v*, 1 *p*, 3 *pd*, 2 *ad* and ring of apicals; hind femur




Figs 22–28. *Parallelomma merzi* sp.n. and *Scathophaga calceata* sp.n.: 22 — wing; 23, 26 — male sternite 5; 24, 27 — epandrium and surstyli, lateral view; 25, 28 — same, dorsal view.

Рис. 22–28. *Parallelomma merzi* sp.n. and *Scathophaga calceata* sp.n.: 22 — крыло; 23, 26 — стернит V самца; 24, 27 — эпандрий и сурстили, сбоку; 25, 28 — тоже, сверху.

with row of *ad* on whole length and 2–3 hair-like *av*; hind tibia with 3 *ad*, 3 *pd*, and ring of apicals. Abdomen with moderate black setae along posterior margin of each tergite; sternite 7 shining, without pollen.

Length of body 7.0 mm, length of wing 7.8 mm.

COMPARISON. There are four species of Scathophaga with narrow sclerotized bridge behind and above hind coxae between metepimera in Palaearctic. The new species is more similar to *Scathophaga mellipes* Coquillett, 1899 [*Scathophaga eoa* Ozerov 2007, **syn.n.**] by shortly haired arista and blackish postpedicel, but differs by absence of intra-alar seta before suture in both sexes, presence of row of *ad* on male hind femur in apical half and by structure of male cerci.

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