

## Subgeneric division of some genera of the subfamily Orgeriinae, with description of new subgenera (Homoptera: Dictyopharidae)

### Подродовое деление некоторых родов подсемейства Orgeriinae с описанием новых подродов (Homoptera: Dictyopharidae)

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КЛЮЧЕВЫЕ СЛОВА: Orgeriinae, новые подроды, Палеарктика.

ABSTRACT. Subgeneric system of the genera *Elysiaca* Emeljanov, 1969, *Sphenocratus* Horváth, 1910, *Bursinia* A. Costa, 1862, *Parorgerioides* Bergevin, 1928, *Nymphorgerius* Oshanin, 1913, *Scirtophaca* Emeljanov, 1969, *Mesorgerius* Kusnezov, 1933, *Kumlika* Oshanin, 1913 of the subfamily Orgeriinae (Dictyopharidae) is revised. Thirteen new subgenera are erected.

РЕЗЮМЕ. Ревизована подродовая система родов *Elysiaca* Emeljanov, 1969, *Sphenocratus* Horváth, 1910, *Bursinia* A. Costa, 1862, *Parorgerioides* Bergevin, 1928, *Nymphorgerius* Oshanin, 1913, *Scirtophaca* Emeljanov, 1969, *Mesorgerius* Kusnezov, 1933, *Kumlika* Oshanin, 1913 подсемейства Orgeriinae (Dictyopharidae). Установлено 13 новых подродов.

#### Introduction

At present the generic system of the subfamily Orgeriinae as seems already has developed [Emeljanov, 1969, 1999, 2003, 2006]. Taxonomic structure of the genera, namely, erecting of the subgenera where it is necessary is not complete yet [Emeljanov, 1997, 2003, 2006]. Particularly the subgeneric system of Palaearctic orgeriine genera is not complete. A few taxa of subgeneric rank were described previously as genera or subgenera. Morphological study of eight polytypic and mesotypic genera of the subfamily Orgeriinae (*Elysiaca* Emeljanov, 1969, *Sphenocratus* Horváth, 1910, *Bursinia* A. Costa, 1862, *Parorgerioides* Bergevin, 1928, *Nymphorgerius* Oshanin, 1913, *Scirtophaca* Emeljanov, 1969, *Mesorgerius* Kusnezov, 1933, *Kumlika* Oshanin, 1913) showed necessity of erecting of 13 new subgenera. Below are given the keys for identification of the subgenera of these genera.

#### Taxonomy

##### Genus *Elysiaca* Emeljanov, 1969

##### KEY TO SUBGENERA

- 1 (4). Boundary between coryphe and metope sharp, keel-shaped. Metope with distinct carinae. Median carina of clypeus almost always sharp. Carina between eye and antenna absent. Elytra with distinct subsutural carina. Cornua of penis long, bent above theca.
- 2 (3). Head, pronotum and mesoscutellum without black speckles, equally coloured except lateral area of metope. Coryphe, pronotum, mesoscutellum, and elytra yellow or orange. Dorsal vesiculae of theca without tooth basally or apically. Ventral lobe of 3rd valva of ovipositor with digitate process. Ventral lobe of 1st valva of ovipositor with 4 teeth in apical row ..... *Elysiaca* s. str.
- 3 (2). Head, pronotum, and mesoscutellum with black speckles. Body gray or brown, without rich yellow colour. Dorsal vesicles of theca with tooth basally or apically. Ventral lobe of 3rd valva of ovipositor with crestshaped fleshy longitudinal appendage lying apically on its inner side. Ventral lobe of 1st valva of ovipositor with 4-5 teeth in apical row ..... *Eupolia* **subgen. n.**
- 4 (1). Boundary between coryphe and metope smooth. Metope with weak carinae. Clypeus without median carina. Carina between eye and antenna present. Elytra without subsutural carina. Cornua of penis short, sclerotized, weakly arquate ..... *Sebasma* **subgen. n.**

##### COMPOSITION OF THE SUBGENERA

##### Subgenus *Elysiaca* Emeljanov, 1969

Type species: *Orgerius ferganensis* Oshanin, 1879.

Species included: *E. chomutovi* Oshanin, 1879 (*Orgerius chomutovi*); *E. ferganensis* Oshanin, 1879 (*Orgerius ferganensis*); *E. kiritshenkoi* Oshanin, 1879 (*Orgerius kiritshenkoi*); *E. kuznetsovi* Emeljanov, 1972.

##### Subgenus *Sebasma* **subgen. n.**

Type species: *Elysiaca oshanini* Emeljanov, 1972.

Species included: *E. oshanini* Emeljanov, 1972.

Subgenus *Eupolia* subgen. n.

Type species: *Ranissus ellipticus* Oshanin, 1871.

Species included: *E. elliptica* Oshanin, 1871 (*Ranissus ellipticus*); *E. fusca* Oshanin, 1879 (*Orgerius fusca*); *E. rudrata* Emeljanov, 1972; *E. sclerosa* Emeljanov, 1972; *E. similis* Oshanin, 1879 (*Orgerius similis*).

Genus *Sphenocratus* Horváth, 1910

## KEY TO SUBGENERA

- 1 (2). Cornua of penis bifurcate, with inflation above theca. Mesoscutal disc with lateral carinae on fore half only. Abdomen without intermedial carinae ..... *Calladrus* subgen. n.
- 2 (1). Cornua of penis with two or more dorsal short branches or teeth, without basal inflation. Mesoscutal disc with lateral carinae reaching its hind margin. Abdomen with intermedial carinae.
- 3 (6). Cornua of penis with more than three apices (with more than two dorsal teeth). Theca rather short, with basal sclerotized part occupying no more than half of its whole length. Dorsal vesicle of theca always with twin offshoot.
- 4 (5). Ventral vesicles of theca with apical tooth or wholly sclerotized, with acuminate apex. Mesoscutal disc with lateral carinae slightly not reaching its hind margin ..... *Lentisca* subgen. n.
- 5 (4). Ventral vesicles of theca without teeth apically. Mesoscutal disc with lateral carinae reaching its hind margin ..... *Sphenocratus* s. str.
- 6 (3). Cornua of penis with three apices (with two dorsal teeth). Theca very long, with basal sclerotized part occupying nearly 3/4 of its length. Dorsal vesicle of theca unpaired, without offshoot ..... *Sphenocratistus* subgen. n.

## COMPOSITION OF THE SUBGENERA

Subgenus *Sphenocratus* Horváth, 1910

Type species: *Orgerius megacephalus* Oshanin, 1879.

Species included: *S. megacephalus* Oshanin, 1879 (*Orgerius megacephalus*).

Subgenus *Sphenocratistus* subgen. n.

Type species: *Sphenocratus hastatus* Oshanin, 1913.

Species included: *S. hastatus* Oshanin, 1913; *S. palaeomastodon* Kusnetsov, 1927.

Subgenus *Calladrus* subgen. n.

Type species: *Sphenocratoides lukjanovitshi* Kusnezov, 1933.

Species included: *S. lukjanovitshi* Kusnezov, 1933 (*Sphenocratoides lukjanovitshi*); *S. tarbagataicus* Emeljanov, 1972.

Subgenus *Lentisca* subgen. n.

Type species: *Orgerius heptapotamicus* Oshanin, 1879.

Species included: *S. akakius* Emeljanov, 1979; *S. alakulis* Mitjaev, 1971; *S. barbanigra* Emeljanov, 1972; *S. floridus* Emeljanov, 1972; *S. griseus* Emeljanov, 1972; *S. heptapotamicus* Oshanin, 1913 (*Orgerius heptapotamicus*); *S. reticulatus* Oshanin, 1913 (*Orgerius reticulatus*); *S. septentrionalis* Oshanin, 1913 (*Orgerius septentrionalis*); *S. xinjiangensis* Liang, 2006.

Genus *Bursinia* A. Costa, 1862

## KEY TO SUBGENERA

- 1 (2). Apical callus longitudinal. Metope with lateral carinae complete. Lateral areae of metope with more than two rows of sensory pits apically ..... *Bursinia* s. str.

- 2 (1). Apical callus transverse. Metope with lateral carinae incomplete (indistinct between and before eyes). Lateral areae of metope with only two rows of sensory pits apically and sometimes with additional pits ..... *Struthionia* subgen. n.

## COMPOSITION OF THE SUBGENERA

Subgenus *Bursinia* A. Costa, 1862

Type species: *Fulgora hemiptera* O. Costa, 1840

Species included: *B. breviceps* Horváth, 1913; *B. carinata* Horváth, 1936; *B. discolor* Horváth, 1936; *B. fallax* Horváth, 1936; *B. galaxia* Emeljanov et Drosopoulou, 2004; *B. genei* Dufour, 1849 (*Dictyophora genei*); *B. griseola* Horváth, 1936; *B. hemiptera* O. Costa, 1840 (*Fulgora hemiptera*); *B. latipes* Horváth, 1913; *B. parvula* Horváth, 1913; *B. pithyusa* Emeljanov, 1972; *B. rugosa* Emeljanov, 1972.

Subgenus *Struthionia* subgen. n.

Type species: *Bursinia seminitens* Horváth, 1910

Species included: *B. acuticeps* Bergevin, 1918; *B. adelpha* Horváth, 1936; *B. asphodeli* Horváth, 1910 (= *B. algira* Matsumura, 1910; = *B. flava* Horváth, 1910); *B. elongatula* Linnavuori, 1965; *B. seminitens* Horváth, 1910; *B. sicula* Emeljanov, 1972.

Genus *Parorgerioides* Bergevin, 1928

## KEY TO SUBGENERA

- 1 (8). Abdominal tergites without intermediate carinae.
- 2 (3). Mammoides present. Fore and middle legs foliate. Coryphe short. Lateral areae of metope with two rows of sensory pits and with some pits of third row apically. Elytra rather smooth ..... *Podorgerius* subgen. n.
- 3 (2). Mammoides absent. Fore and middle legs simple, linear. Coryphe longer. Apical part of lateral areae of metope broad, with irregular sensory pits. Elytra with rather strong longitudinal veins.
- 4 (5). Metope with distinct lateral carinae between eyes. Coryphe 2–2.5 times as long as broad, with lateral margins not concave before apex. Pronotal disc usually with two rows plus one pit on each side ..... *Parorgerioides* s. str.
- 5 (4). Metope with lateral carinae indistinct or very weak between eyes. Coryphe shorter, or its subapical margins concave. Paranotal disc with 2 rows plus 1–2 sensory pits.
- 6 (7). Metope with lateral carinae not concave before apex. Lateral carinae of metope very weak or indistinct between and before eyes ..... *Gyorgerius* subgen. n.
- 7 (6). Metope with lateral carinae concave before apex. Lateral carinae of metope indistinct at subantennal carinae level ..... *Maurorgerius* subgen. n.
- 8 (1). Abdominal tergites with strong intermediate carinae ..... *Pepirus* Emeljanov

## COMPOSITION OF THE SUBGENERA

Subgenus *Parorgerioides* Bergevin, 1928

Type species: *Orgerius alluaudi* Bergevin, 1922.

Species included: *P. alluaudi* Bergevin, 1922 (*Orgerius alluaudi*); *P. angusticeps* Blöte, 1957 (*Nymphorgerius angusticeps*); *P. aschei* Emeljanov, 1998; *P. transversus* Blöte, 1957 (*Nymphorgerius transversus*).

Subgenus *Gyorgerius* subgen. n.

Type species: *Orgerius perezii* Bolivar et Chicote, 1879.

Species included: *P. bolivari* Horváth, 1913 (*Orgerius bolivari*); *P. dumonti* Bergevin, 1928 (*Orgerius dumonti*);

*P. numanni* Blöte, 1957 (*Nymphorgerius numanni*); *P. perezii* Blöte et Chicote, 1879 (*Orgerius perezii*).

#### Subgenus *Maurorgerius* subgen. n.

Type species: *Orgerius immundus* Horváth, 1913.

Species included: *P. cyrenaicus* Linnavuori, 1965 (*Nymphorgerius cyrenaicus*); *P. immundus* Horváth, 1913 (*Orgerius immundus*) (= *Orgerius rupicola* Bergevin, 1919); *P. peyerimhoffii* Bergevin, 1922 (*Sphenocratus peyerimhoffii*) (= *Nymphorgerius pardoii* Linnavuori, 1965).

#### Subgenus *Podorgerius* subgen. n.

Type species: *Orgerius albofasciatus* Puton, 1888.

Species included: *P. albocinctus* Melichar, 1912 (*Parorgerius albocinctus*); *P. albofasciatus* Puton, 1888 (*Orgerius albofasciatus*); (= *Orgerius saboureti* Bergevin, 1915).

#### Subgenus *Pepirus* Emeljanov, 1998

Type species: *Parorgerius peyerimhoffii* Bergevin, 1924.

Species included: *P. bergevini* Emeljanov, 1998 (*Parorgerioides bergevini*) [= *Parorgerius peyerimhoffii* Bergevin, 1924 non *P. peyerimhoffii* Bergevin, 1922].

#### Genus *Nymphorgerius* Oshanin, 1913

##### KEY TO SUBGENERA

- 1 (2). Sublateral carina of elytra absent or present in basal part only ..... *Isocurus* subgen. n.
- 2 (1). Sublateral carina of elytra distinct from base to hind margin of elytra.
- 3 (4). Fore coxae with cuneiform flat projection of lateral margin. Fore and middle legs dilated. Humeral area of pronotum with 2 sensory pits only ..... *Anorgeriopus* Kusn.
- 4 (3). Fore coxae without cuneiform projection. Fore and middle legs simple, linear, or weakly dilated. Humeral area of pronotum with 3–5 sensory pits.
- 5 (6). Abdomen with 4–5 sensory pits in submedian area. Elytra with strong longitudinal carinae (veins) ..... *Sphenocratoides* Kusn.
- 6 (5). Abdomen with 3+1 or 2+1 sensory pits in submedian area. Elytra, except subcostal carina, with subsutural carina only or without any other carinae ..... *Nymphorgerius* s. str.

##### COMPOSITION OF THE SUBGENERA

#### Subgenus *Nymphorgerius* Oshanin, 1913

Type species: *Orgerius dimorphus* Oshanin, 1879.

Species included: *N. alboniger* Emeljanov, 1972; *N. clariceps* Emeljanov, 1972; *N. convergens* Emeljanov, 1972; *N. dimorphus* Oshanin, 1879 (*Orgerius dimorphus*); *N. grigorievi* Oshanin, 1913; *N. ivanovi* Kusnetzov, 1928; *N. korolkovi* Oshanin, 1879 (*Orgerius korolkovi*); *N. medius* Oshanin, 1879 (*Orgerius medius*); *N. plotnikovi* Kusnezov, 1928; *N. rotundus* Kusnezov, 1936.

#### Subgenus *Isocurus* subgen. n.

Type species: *Nymphorgerius transcausicus* Sidorski, 1938.

Species included: *N. armeniacus* Emeljanov, 1998; *N. balchanicus* Emeljanov, 1978; *N. curticeps* Linnavuori, 1965 (*Sphenocratus curticeps*); *N. cyprius* Lindberg, 1949 (*Sphenocratus cyprius*); *N. emeljanovi* Dlabola, 1979; *N. gemmatus* Horváth, 1929 (*Orgerius gemmatus*); *N. mullah* Dlabola, 1979.

#### Subgenus *Anorgeriopus* Kusnezov, 1930

Type species: *Orgerius stali* Oshanin, 1879.

Species included: *N. auriculatus* Emeljanov, 1972; *N. bucharicus* Oshanin, 1913; *N. eburneolus* Emeljanov, 1978;

*N. horvathi* Oshanin, 1913; *N. prasinus* Emeljanov, 1982; *N. reuteri* Oshanin, 1879 (*Orgerius reuteri*); *N. skobelevi* Oshanin, 1879 (*Orgerius skobelevi*); *N. stali* Oshanin, 1879 (*Orgerius stali*); *N. tryphema* Emeljanov, 1982.

#### Subgenus *Sphenocratoides* Kusnezov, 1930

Type species: *Orgerius longiceps* Oshanin, 1879.

Species included: *N. angustipes* Emeljanov, 1972; *N. fuliginosus* Emeljanov, 1972; *N. gussakovskii* Kusnezov, 1933 (*Sphenocratus gussakovskii*); *N. longiceps* Oshanin, 1879 (*Orgerius longiceps*); *N. oxianus* Oshanin, 1913, (*Sphenocratus oxianus*).

#### Genus *Scirtophaca* Emeljanov, 1969

##### KEY TO SUBGENERA

- 1 (2). Dorsal vesicle of theca absent or very weak. Dorsal lamella of theca sclerotized ..... *Scirtopaca* s. str.
- 2 (1). Dorsal vesicle of theca well developed, bifid. Dorsal lamella of theca weakly sclerotized ..... *Scirtophacina* subgen. n.

##### COMPOSITION OF THE SUBGENERA

#### Subgenus *Scirtophaca* Emeljanov, 1969

Type species: *Nymphorgerius tianshanskyi* Oshanin, 1913.

Species included: *S. evoluta* Emeljanov, 1972; *S. narynensis* Emeljanov, 1972; *S. subtilis* Emeljanov, 1972; *S. tianshanskyi* Oshanin, 1913 (*Nymphorgerius tianshanskyi*).

#### Subgenus *Scirtophacina* subgen. n.

Type species: *Scirtophaca junatovi* Emeljanov, 1972.

Species included: *S. bungei* Emeljanov, 1978; *S. junatovi* Emeljanov, 1972; *S. uralensis* Emeljanov, 1972.

#### Genus *Mesorgerius* Kusnezov, 1933

##### KEY TO SUBGENERA

- 1 (2). Spines of ventral vesicles of theca ribbed, "in repose" lie on ventral surface of compressed vesicle ..... *Merorgerius* subgen. n.
- 2 (1). Spines of ventral vesicles of theca smooth, "in repose" lie in furrow on dorsal surface of vesicle ..... *Mesorgerius* s. str.

##### COMPOSITION OF THE SUBGENERA

#### Subgenus *Mesorgerius* Kusnezov, 1933

Type species: *Mesorgerius rysakovi* Kusnezov, 1933.

Species included: *M. breviceps* Emeljanov, 1972; *M. rysakovi* Kusnezov, 1933 (= *M. sibiricus* Kusnezov, 1933); *M. submontanus* Dlabola, 1967 (= *M. gobinus* Dlabola, 1967).

#### Subgenus *Merorgerius* subgen. n.

Type species: *Mesorgerius tschujensis* Vilbaste, 1965.

Species included: *M. altaicola* Vilbaste, 1965; *M. emamosus* Emeljanov, 1972; *M. tschujensis* Vilbaste, 1965; *M. monticola* Vilbaste, 1980.

#### Genus *Kumlika* Oshanin, 1913

##### KEY TO SUBGENERA

- 1 (2). Coryphe long, with longitudinal concavity. Metope and coryphe are joined at right angle. Discal and paradiscal sensory pits are separated by gap. 3rd abdominal tergite with 4+1 sensory pits on each side ..... *Kumlika* s. str.
- 2 (1). Coryphe short, without concavity. Metope and coryphe are joined at obtuse angle. Discal and paradiscal sensory

pits are not separated by gap. 3<sup>rd</sup> abdominal tergite with 5+1 sensory pits on each side ..... *Ammothetus* **subgen. n.**

#### COMPOSITION OF THE SUBGENERA

##### Subgenus *Kumlika* Oshanin, 1913

Type species: *Kumlika recurviceps* Oshanin, 1913.

Species included: *K. recurviceps* Oshanin, 1913.

##### Subgenus *Ammothetus* **subgen. n.**

Type species: *Ototettix surdus* Oshanin, 1913.

Species included: *K. desertorum* Oshanin, 1913 (*Ototettix desertorum*); *K. mandrita* Emeljanov, 1998; *K. surda* Oshanin, 1913 (*Ototettix surda*).

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