



Nomenclatorial changes in the family Cixiidae (Homoptera, Auchenorrhyncha, Fulgoroidea), with fixation of type species of the genus *Reptalus* Emeljanov, 1971 and description of a new subgenus

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Abstract

New name, *Caravellita*, is proposed to replace *Caravella* Emeljanov, 2007, nomen praeoccupatum. *Proreptalus* Emeljanov, 2015 is placed in synonymy under *Reptalus* Emeljanov, 1971. *Pererepa*, subgen. nov. is erected for *Oliarus quadricinctus* Matsumura, 1914 in the genus *Reptalus* Emeljanov, 1971. *Flata artemisiae* Becker, 1865 is validated and fixed as type species of the genus *Reptalus* Emeljanov following the Article 70.3 of the ICZN, while *Oliarus quinquecostatus* Fieber, 1872 (non *Cixius quenquicostatus* Dufour, 1833) is supposed to be misidentification of *F. artemisiae* Becker. Key to subgenera of *Reptalus* is given.

Key words: systematics, new synonym, new combination, new subgenus, replacement name, Cixiinae, Cixiini, Pentastirini

Introduction

D. A. Dmitriev (Illinois, USA) kindly informed me of two nomenclatorial blunders committed by me, for which I am truly grateful to him. Below new name proposed for *Caravella* Emeljanov, 2007 and *Proreptalus* Emeljanov, 2015 is placed in synonymy under *Reptalus* Emeljanov, 1971 as objective synonym which was a result of a technical error unnoticed. At the same time in fact a new subgenus wrongly named as *Reptalus sensu stricto* (Emeljanov 2015) left untitled. For this subgenus I propose a new name—*Pererepa* **subgen. nov.** The validity of *Flata artemisiae* Becker, 1865 and Fieber's treatment of *Oliarus quinquecostatus* are discussed and following the Article 70.3 of the ICZN *F. artemisiae* Becker is fixed as type species of the genus *Reptalus* Emeljanov.

Material and methods

Morphological terminology and taxonomy follows Emeljanov (2007, 2015).

Taxonomy

Family Cixiidae Spinola, 1839

Subfamily Cixiinae Spinola, 1839

Tribe Cixiini Spinola, 1839

Caravellita **nom. nov. pro** *Caravella* Emeljanov, 2007

(type species: *Caravella saccibuccis* Emeljanov, 2007), nomen praeoccupatum, non *Caravella* Haeckel, 1888.

Tribe Pentastirini Emeljanov, 1971

Subtribe Pentastirina Emeljanov, 1971

Genus *Reptalus* Emeljanov, 1971

Reptalus Emeljanov, 1971: 621. Type species: *Flata artemisiae* Becker, 1865 (= *Cixius quinquecostatus* Fieber, 1872 non Dufour, 1833).

= *Proreptalus* Emeljanov, 2015: 209 (Type species: *Cixius quinquecostatus* Fieber, 1872 non Dufour, 1833), **syn. nov.**

Note. Type species of the genus *Reptalus* Emeljanov is now fixed following the Article 70.3 of the International Code of Zoological Nomenclature as *Flata artemisiae* Becker, 1865 misidentified as *Cixius quinquecostatus* Dufour, 1833 in the original designation by Emeljanov (1971).

Key to subgenera of *Reptalus* (after Emeljanov, 2015, modified)

1. First metatarsomere with subapical spines 2
- First metatarsomere without subapical spines 3
2. Pygofer with postero-ventral process without constriction. Inner surface of dorsal side of pygofer with carinae running symmetrically, not turn caudally, or without carinae *Trepalus* Emeljanov, 1995
- Pygofer with postero-ventral process with constriction. Inner surface of dorsal side of pygofer with carinae running asymmetrically, caudally turn left *Palvanus* Emeljanov, 2015
3. Phallosome without dorsal tooth. Ugal tooth present. Dorsal tooth at the base of distal segment of penis conical or absent. *Reptalus* Emeljanov, 1971
- Phallosome with dorsal tooth. Ugal tooth rudimentary or absent. Dorsal tooth at the base of distal segment of penis become a flattened lobe *Pererepa* **subgen. nov.**

Subgenus *Reptalus* Emeljanov, 1971

Composition. *R. arcobogdulus* (Dlabola, 1965), *R. artemisiae* (Becker, 1865), *R. quinquecostatus* (Dufour, 1833).

Reptalus artemisiae (Becker, 1865), **comb. nov.**

Flata artemisiae Becker, 1865: 489.

= *Oliarus quinquecostatus* Fieber, 1872: 3 non *Cixius quinquecostatus* Dufour, 1833: 224.

= *Reptalus quinquecostatus* Emeljanov, 1971: 621.

Comments. According to Webb *et al.* (2013), *Cixius quinquecostatus* Dufour, 1833, chosen by me as the type species of the genus *Reptalus* (Emeljanov, 1971), was misinterpreted at least since Fieber's works (Fieber 1872, 1875, 1876). Webb with coauthors (Webb *et al.* 2013) showed that *Oliarus melanochaetus* Fieber, 1872 is junior synonym of *C. quinquecostatus* Dufour, 1833. As a result of this established synonymy, the question arises of how to name *Reptalus quinquecostatus sensu* Fieber which was leaved opened by Webb *et al.* (2013). However from the same publication follows that F.X. Fieber had in his hands the specimens from A. Becker which were already shortly described and named by Becker as *Flata artemisiae* m.[ihi] (Becker 1865) and Fieber treated this species as the member of the genus *Oliarus* Stål, 1862 and even made the drawings (aquarels) of male genitalia of the species published later by Webb *et al.* (2013, fig. 5a). Metcalf cited "*artemisiae* Becker" twice—as *Flata artemisiae* Becker sp. n. in his Catalogue of Flatidae (Metcalf 1957) and as *Oliarus artemisiae* Becker *nomen nudum* with the references to Fieber's papers (Fieber 1872, 1876) in his Catalogue of Cixiidae (Metcalf 1936). Fieber (1872, 1876) mentioned this name as *Oliarus artemisiae* synonym of *Olearus quinquecostatus* but not as *nomen nudum*. In both cases they are certainly writing about the same Becker's species which was placed in the genus *Oliarus* by Fieber according to that time. F. X. Fieber received the materials from Becker who lived in Sarepta (former Krasnoarmeysk in USSR, currently incorporated by Volgograd) and described new species after his materials (Wiren 1901). Appar-

ently Fieber did not right away conclude that *Oliarus artemisiae* and *O. quinquecostatus* are identical that is why first on the finished drawing he made the inscription “*artemisiae*” and then crossed it out. Since Becker (1865) gave some information on morphology and habitat (“...*Flata Artemisiae* m. an *Artemisia fragrans* und *Art. nutans*; 4 Linien lang. Flügel und Flügeldecken hell und lang, Körper graugelb...”) of *Flata artemisiae* it should be considered as valid name contrary to Metcalf opinion.

Subgenus *Pererepa* subgen. nov.

Type species: *Oliarus quadricinctus* Matsumura, 1914.

Diagnosis. First metatarsomere without subapical spines. Phallosome with dorsal tooth. Ugal tooth rudimentary or absent. Dorsal tooth at the base of distal segment of penis become a flattened lobe.

Composition. *R. basiprocessus* Guo et Wang, 2007, *R. beirnei* Emeljanov, 1978, *R. exoptatus* (Van Duzee, 1917), *R. fidus* (Van Duzee, 1914), *R. flavinervis* (Kusnezov, 1937), *R. iguchii* (Matsumura, 1914), *R. narynensis* Emeljanov et Tishechkin, 2012, *R. nigricollis* (Kusnezov, 1935), *R. nigrovenosus* (Kusnezov, 1937), *R. panzeri* (P. Löw, 1883), *R. quadricinctus* (Matsumura, 1914), *shunxiwuensis* Bai, Guo et Feng, 2015.

Etymology. An arbitrary combination of letters. Grammatically it is Latin noun. Feminine in gender.

Subgenus *Trepalus* Emeljanov, 1995

Type species: *Oliarus rufocarinatus* Kusnezov, 1936.

Composition. *R. barajus* (Dlabola, 1975), *R. concolor* (Fieber, 1876), *R. cuspidatus* (Fieber, 1876), *R. eremicus* Dlabola, 1985, *R. noahi* Emeljanov, 1995, *R. rufocarinatus* (Kusnezov, 1937), *R. suleiman* Dlabola, 1988, *R. vilbastei* Logvinenko, 1975, *R. ziaran* Dlabola, 1985. Probably also *R. perminutus* (Dlabola, 1959).

Subgenus *Palvanus* Emeljanov 2015

Type species: *Reptalus corpulentus* Emeljanov, 1978.

Composition. Monotypical subgenus.

Note. Other species placed in the genus *Reptalus*, mostly Dlabola's species, described and illustrated incompletely with respect to the characters necessary for correct identification their subgeneric position and unknown to me after the material: *R. atlassicus* Dlabola, 1989, *R. eremicus* Dlabola, 1989, *R. estremadurus* Dlabola, 1988, *R. oleae* Dlabola, 1987, *R. raunophilus* Dlabola, 1994, *R. reductus* Dlabola, 1994, *R. rhodosicus* Dlabola, 1980, *R. torossicus* Dlabola, 1957, *R. venosus* Rambur, 1840.

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