

**Two new species and additional records of the genus *Eupteryx*
(Hemiptera: Cicadellidae: Typhlocybinae)
from the northern Caucasus**

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MÜHLETHALER R. & GNEZDILOV V. M. 2013: Two new species and additional records of the genus *Eupteryx* (Hemiptera: Cicadellidae: Typhlocybinae) from the northern Caucasus. In: KMENT P., MALENOVSKÝ I. & KOLIBÁČ J. (eds.): Studies in Hemiptera in honour of Pavel Lauterer and Jaroslav L. Stehlík. *Acta Musei Moraviae, Scientiae biologicae* (Brno) **98(2)**: 183–189. – Two new species of the genus *Eupteryx* Curtis, 1833 (*E. lautereri* sp.nov. and *E. logvinenkoae* sp.nov.) are described from the mountain regions of the Krasnodar Territory in Russia and Abkhazia in Georgia. *Eupteryx filicum* (Newman, 1853) is recorded for the first time for Russia and *Eupteryx calcarata* Ossiannilsson, 1936 for Georgia.

Keywords. Auchenorrhyncha, Cicadomorpha, leafhopper, faunistics, taxonomy, new species, Russia, Krasnodar Territory, Georgia, Abkhazia

Introduction

The genus *Eupteryx* Curtis, 1833 includes two subgenera *Eupteryx* (*sensu stricto*) and *Stacla* Dworakowska, 1969 and 116 species to date (ASCHE & HOCH 2004, GUGLIELMINO *et al.* 2011, POGGI 2012, DMITRIEV & DIETRICH 2003), most of which are distributed in the Palearctic region (78 species). Several species-groups were proposed by RIBAUT (1936) mainly based on wing venation and adult genital characters, later supported by STEWART (1986, 1988) using larval characters. In Europe and North America, some species of *Eupteryx* are important pests of medical and culinary herbs in terms of feeding damage (HENKE *et al.* 2013).

Here we describe two new *Eupteryx* (*s. str.*) species from the Krasnodar Territory of Russia and Abkhazia in Georgia. We also provide some new faunistic information on two species of the genus from the northern Caucasus.

We are happy to take the opportunity to dedicate one of the species described below to RNDr. Pavel Lauterer on the occasion of his 80th birthday and in honour of his enormous contribution to knowledge of leafhoppers and psyllids of Europe.

Material and methods

The specimens examined are deposited in the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia (ZIN) and the Moravian Museum, Brno, Czech Republic (MMBC).

Photographs of the specimens were taken using a Leica MZ8 microscope with a JVC KY F70B video camera. The images were processed with Synoptics Automontage software. Drawings of the internal genital characters were made from temporary slide-mounts in glycerine-gelatine using a camera lucida.

Taxonomy

Eupteryx lautereri sp.nov.

(Figs 1–7, 12–15)

Type material. Holotype: ♂, Russia, Krasnodar Territory: Aibga Range, 1900 m, 8 km SE of Krasnaya Polyana, 11.vii.1999, V. M. Gnezdilov leg. (ZIN). Paratypes: Russia, Krasnodar Territory: 1 ♂, 1 ♀, same data as holotype (ZIN). Georgia, Abkhazia: 2 ♂♂ 5 ♀♀, 1 intersex, Bzybysky Range, 13–18.viii.1931, Voronov leg. (ZIN: 2 ♂♂, 4 ♀♀, 1 intersex; MMBC: 1 ♀); 1 ♂ (parasitized), Gudaut, 3–4.viii.1931, Voronov leg. (ZIN).

Description. Body length: males: 3.9–4.1 mm; females: 3.7–4.0 mm; intersex: 3.7 mm.

Coloration. Face yellowish-greenish, almost without dark markings (Figs 13, 15). Vertex with two distinct, round, black-brown spots, sometimes weak or absent, not reaching fore-margin of head in dorsal view (Figs 12, 14). Antennal pit often with black triangular spot below eye. Pronotum yellowish-greenish without dark markings. Scutellum with two large, dark lateral triangles, sometimes weak or absent (Figs 12, 14). Forewing with four distinct black-brown spots, two along commissural border, one along radial vein (in its two-thirds), one in median cell. Apical cells of forewing fuscous (Figs 12, 14).

Male genitalia. Pygofer process long and curved (Fig. 1). Appendages of aedeagus bent inwards with tips crossing each other dorsal to the shaft (Figs 3–5). Genital style as in Fig. 6.

Etymology. The species is dedicated to RNDr. Pavel Lauterer.

Differential diagnosis. *Eupteryx lautereri* sp.nov. belongs to the *E. aurata* species-group. The shape of the aedeagus is similar to that of many species of the *E. aurata* species group. The pygofer process is similar to *E. fahringeri* Melichar, 1911 (see DLABOLA 1981 for characters of the male). Very pale-coloured specimens with almost no markings on the forewings look similar to *E. lelievrei* Lethierry, 1874. The song apodemes are relatively long, reaching almost to the fourth abdominal segment (Fig. 7). The combination of the coloration and the pygofer process is unique and separates *E. lautereri* sp.nov. clearly from all other *Eupteryx* spp.

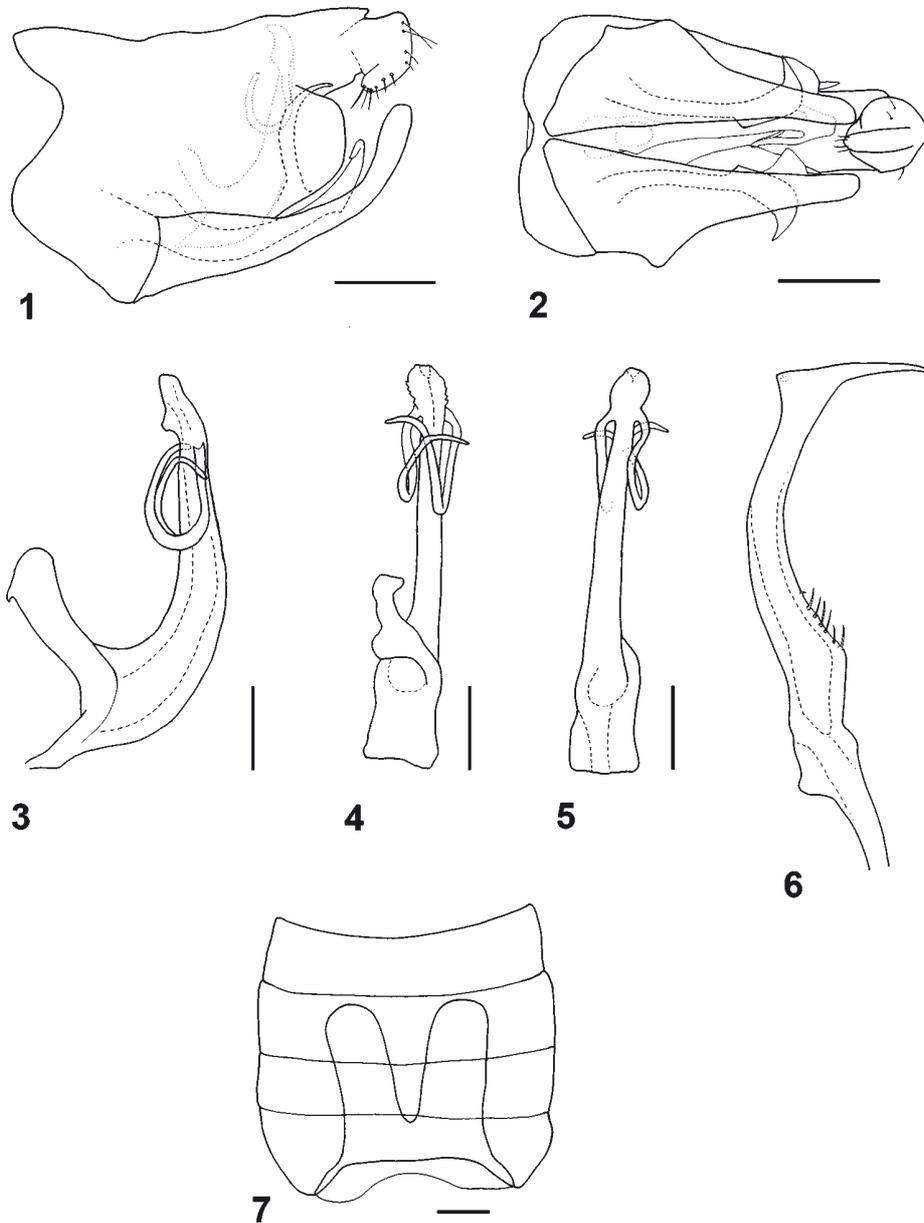
Ecology. In Krasnodar Territory the species was collected in subalpine meadows (1900 m) by sweeping herbs.

Note. The species was erroneously recorded from Russia as “*Eupteryx ?lelievrei* (Lethierry)” by GNEZDILOV (2000).

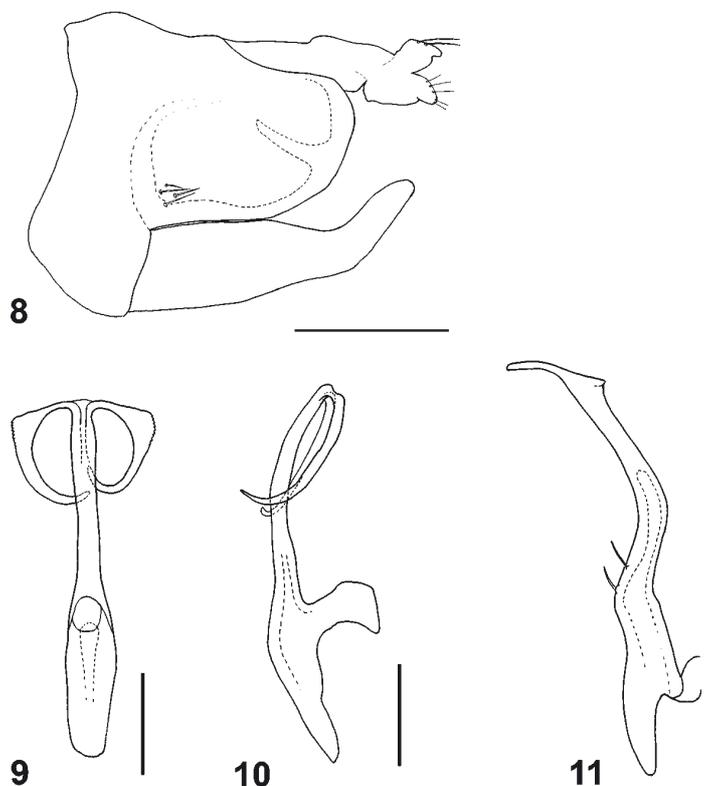
Eupteryx logvinenkoae sp.nov.

(Figs 8–11, 16–17)

Type material. Holotype: ♂, Russia, Krasnodar Territory: near Novorossijsk, 25.vii.1997, V. M. Gnezdilov leg. (ZIN). Paratypes: 2 ♀♀, Russia, Krasnodar Territory: near Gelendzhik, 21.vii.1997, V. M. Gnezdilov leg. (ZIN).



Figs 1–7. *Eupteryx lautereri* sp.nov. 1 – male genital segment in lateral view; 2 – male genital segment in ventral view; 3 – aedeagus in lateral view; 4 – aedeagus in dorsal view; 5 – aedeagus in ventral view; 6 – left genital style; 7 – abdominal segments 1–4 and song apodemes in ventral view. Scale bars: 0.2 mm (1, 2, 7); 0.1 mm (3–6).

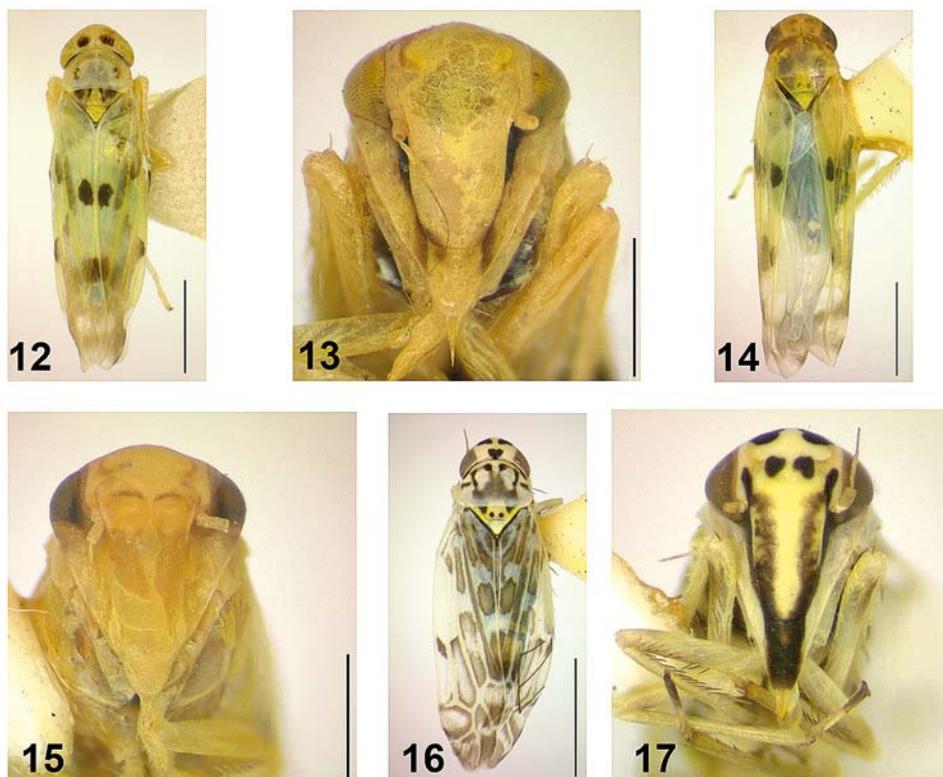


Figs 8–11. *Eupteryx logvinenkoae* sp.nov. 8 – male genital segment in lateral view; 9 – aedeagus in dorsal view; 10 – aedeagus in lateral view; 11 – right genital style. Scale bars: 0.2 mm (8), 0.1 mm (9–11).

Description. Body length: males: 2.5 mm; females: 2.6–2.8 mm.

Coloration. Face greenish with distinct black markings (Fig. 17). Two black spots between eyes; two round, black spots on transition to vertex. Genae on each side of frontoclypeus with black band extending to antennal pit. Anteclypeus black (Fig. 17). Vertex in dorsal view with three distinct black spots, two round spots on transition to face, one triangular spot on posterior margin of head. Pronotum with distinct brownish-black markings (Fig. 16). Scutellum with four black markings, two triangular spots at anterior margin, two small, round spots medially. Forewing with greenish-brown markings (Fig. 16).

Male genitalia. Pygofer process relatively short and slightly curved (Fig. 8). Appendages of aedeagus evenly bent, not (or only slightly) crossing each other dorsal to shaft (Figs 9–10). Genital style as in Fig. 11.



Figs 12–17. 12–15 – *Eupteryx lautereri* sp.nov., habitus: 12 – female, dorsal view; 13 – female, frontal view; 14 – male, dorsal view; 15 – male, frontal view. 16–17 – *Eupteryx logvinenkoae* sp.nov.: 16 – female, dorsal view; 17 – female, frontal view. Scale bars: 1.0 mm.

Differential diagnosis. *Eupteryx logvinenkoae* sp.nov. belongs to the *E. melissae* species-group. The shape of the aedeagus is similar to that of *E. melissae* Curtis, 1837, *E. cytinsularis* Guglielmino, Lauterer et Bückle, 2011 and *E. ichnusae* Poggi, 2012 but the apical appendages do not cross each other and are bent dorsal to the shaft. The structure of the aedeagus is therefore unique and a clear diagnostic character. The pygofer is also similar to that of *E. melissae*, but the postero-dorsal angle is less prominent (Fig. 8). The coloration of the head and wings is similar to other species of the *E. melissae* species-group, e.g. *E. collina* (Flor, 1861).

Ecology. The species was collected by sweeping herbs in the sub-Mediterranean plant communities of the Markotkh Range, near the Black Sea coast.

Etymology. The species is named in honour of Dr. Valentina Nikolaevna Logvinenko (1929–1983) who studied the Auchenorrhyncha fauna of the Caucasus closely.

New records

Eupteryx calcarata Ossiannilsson, 1936

Material examined. 1 ♂, Georgia, Abkhazia: Kheknara, 500 m, 31.viii.1976, A. K. Zagulyaev leg. (ZIN).

Note. A western Palaearctic species, widely distributed in Europe and Kazakhstan (NAST 1972). First record from Georgia.

Eupteryx filicum (Newman, 1853)

Material examined. 2 ♂♂, 3 ♀♀, Russia, Krasnodar Territory: near Lazarevskoe village, 27.ix.1985, A. G. Kireychuk leg. (ZIN).

Note. The species was incorrectly identified as *Zygina rhamni* Ferrari, 1882 and accordingly erroneously recorded for Russia (GNEZDILOV 2000). A western Palaearctic species known from western Europe, the Mediterranean region and Turkmenistan (NAST 1972). Now recorded here for the first time for Russia.

Discussion

Eupteryx lautereri sp.nov. clearly belongs to the *E. aurata* species-group, to judge by its wing venation and the structure of the male genitalia (RIBAUT 1936). To date, only two species of the group may be regarded as closely related: *E. fahringeri* and *E. lelievrei*. *E. logvinenkoae* sp.nov. is part of the *E. melissae* species-group. Recently, two other species of this group were described: *E. cytinsularis* and *E. ichnusae* (GUGLIELMINO *et al.* 2011, POGGI 2012). Both are from the Mediterranean region and are different in the structure of the aedeagus from *E. logvinenkoae* sp.nov. described here.

The list of *Eupteryx* species known from the Krasnodar Territory of Russia currently comprises 14 species (GNEZDILOV 2000 and new data in this paper): *E. adspersa* Herrich-Schäffer, 1838; *E. assectator* Logvinenko, 1966; *E. atropunctata* (Goeze, 1778); *E. cyclops* Matsumura, 1906; *E. egregia* Logvinenko, 1981; *E. filicum*; *E. florida* Ribaut, 1936; *E. formaster* Logvinenko, 1966; *E. lautereri* sp.nov.; *E. logvinenkoae* sp.nov.; *E. origani* Zachvatkin, 1948; *E. praestabilis* Logvinenko, 1966; *E. stachydearum* (Hardy, 1850); and *E. tenella* (Fallén, 1806).

The same pattern of montane distribution (on the Aibga and Bzybsky Ranges – both of them parts of the Main Caucasus Range) appears for *E. lautereri* sp.nov. and *Mycterodus aspernatus* Gnezdilov, 2001 (Issidae) (GNEZDILOV 2001). Apparently both species are north-western Caucasian endemics occurring in subalpine meadows. As well as *E. lautereri* sp.nov., three more *Eupteryx* species have been recorded from subalpine meadows in the Aibga Range – *E. assectator*, *E. atropunctata*, and *E. florida* (GNEZDILOV 2000).

The intersex of *E. lautereri* sp.nov. (i.e. a feminized male) was possibly the result of a *Wolbachia* infection; similar intersexes have recently been reported for other *Eupteryx* populations (HENKE *et al.* 2013).

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