

ISCHNURA FOUNTAINEAE MORTON, LINDENIA TETRAPHYLLA (VANDER LINDEN) AND SELYSIOTHEMIS NIGRA (VANDER LINDEN) NEW FOR EUROPEAN RUSSIA (ZYGOPTERA: COENAGRIONIDAE; ANISOPTERA: GOMPHIDAE, LIBELLULIDAE)

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Abstract – 25 odon. spp. recorded during 2005-2007 from Kalmykia Republic (lower reaches of the Volga river), are listed. *I. fountaineae*, *L. tetrphylla* and *S. nigra* were not previously recorded from European Russia; the former 2 spp. are also new for Eastern Europe, and the *I. fountaineae* specimen is the first reliable specimen collected in the Russian territory.

Introduction

The fauna of European Russia is updated with three Odonata species, and this is the first addition to the dragonfly fauna of Eastern Europe's largest part, published since the A.N. Bartenev's time (1920-1950th). The recent update results from an entomological field survey in Kalmykia Republic, a large region lying at the upper southeastern corner of European Russia, in lower reaches of the Volga river, verging on the Caspian Sea in the Southeast and bordering with Ciscaucasia (Daghestan and Stavropol Territory) in the Southwest. Although Ciscaucasia is a part of Russia and belongs, in general, to Europe, it is considered in Russian biogeography as a separate unit, differing from what is traditionally called 'European Russia'.

The dragonfly fauna of the republic was completely unknown before our investigation started in 2005. In total, 25 spp. have been recorded during 2005-2007: *Calopteryx splendens*, *Lestes barbarus*, *L. macrostigma*, *Sympetma paedisca*, *Coenagrion puella*, *Erythromma viridulum*, *Ischnura elegans*, *I. fountaineae*, *I. pumilio*, *Platycnemis pennipes*, *Aeshna affinis*, *A. mixta*, *Anaciaeschna isosceles*, *Anax parthenope*, *Lindenia tetrphylla*, *Libellula quadrimaculata*, *Orthetrum albistylum*, *O. brunneum*, *O. cancellatum*, *Crocothemis erythraea*, *Sympetrum fonscolombii*, *S. meridionale*, *S. sanguineum*, *S.*

striolatum and *Selysiotthemis nigra*. The here discussed *I. fountaineae*, *L. tetrphylla* and *S. nigra* were discovered during the 2007 field season. The single *I. fountaineae* specimen was only collected in September, while two other species were common and sometimes abundant during most of June, and were jointly collected on many sites.

Localities

All in Russian Federation, Kalmykia Republic:

- (1) Yashkul'ski distr., the steppe section of Cherniye Zemli Nat. Res., protecting cordon Atzan-Khuduk (46°04'N, 46°18'E).
- (2) Yashkul'ski distr. the steppe section of Cherniye Zemli Nat. Res., a small flat-bottom valley S of protecting cordon Atzan-Khuduk (46°04'N, 46°18'E).
- (3) Yashkul'ski distr., the buffer zone of the steppe section of Cherniye Zemli Nat. Res., along the road between protecting cordon Atzan-Khuduk and Khulkhuta settlement, among artificial plantations of *Calligonum* spp. on stabilized sands (46°13'N, 46°17'E).
- (4) Yashkul'ski distr., at southwestern shore of Lake Buzga, among artificial plantations of *Elaeagnus* spp. (46°09'N, 45°38'E).
- (5) Chernoziemelski distr., the steppe section of Cherniye Zemli Nat. Res., a barkhan sand area 1 km SE of Golyj Bugor stow (45°42'N, 46°28'E).
- (6) Chernoziemelski distr., the steppe section of Cherniye Zemli Nat. Res., at a small mineralized lake by a sulphuric-chalybeate artesian well 0.5 km W of the 5th cluster of Tingutinski oil-field (45°48'N, 46°28'E).
- (7) Yashaltinski distr., the buffer zone of the steppe section of Cherniye Zemli Nat. Res., southern coast of Lake Manych-Gudilo,

9 km NE of settlement Oktyabr'skii; a desiccated littoral in front of a belt of reeds (46°12'N, 42°54'E).

Records

All the cited specimens (kept in Laboratory of biodiversity conservation and natural resources utilization, A.N. Severtsov Institute of Ecology and Evolution, RAS) were collected by A.V. Kuvaeu and identified by V.E. Skvortsov.

- *I. fountaineae* – (7): 29-IX-2007, 1♂.
- *L. tetraphylla* – (1): 17-VI-2007, 1♂, 5♀ (at daytime); 17-VI-2007, 1♀ (at night (23.41), in a light trap); 23-VI-2007, 1♀; – (2): 26-VI-2007, 1♂, 1♀; – (3): 16-VI-2007, 3♀; – (4): 18-VI-2007, 1♂, 1♀; – (5): 14-VI-2007, 1♂, 4♀; – (6): 14-VI-2007, 1♀.
- *S. nigra* – (1): 17-VI-2007, 1♂, 2♀, (at daytime); 17-VI-2007, 1♀ (at night (23.58), in a light trap); 23-VI-2007, 1♀; – (2): 26-VI-2007, 1♂; – (3): 16-VI-2007, 1♀, 2♀; – (4): 18-VI-2007, 4♂, 2♀; – (5): 14-VI-2007, 5♀; – (6): 14-VI-2007, 1♂, 1♀.

Discussion

I. fountaineae is an eastern Mediterranean species with the range extending from Central Asia, Middle East and eastern Turkey to North Africa (HARITONOV, 1988; JÖDICKE, 2006). No reliable records have been known from Russia up to the present moment. Two specimens from Dagestan described by ARTOBOLVSKY (1929) are both incomplete and doubtful, namely a single male with broken anal appendages from the Caspian Sea coast (no exact locality) and, probably, also a single female without abdomen tip (from an aqueduct at Belidzhy railway station), mentioned as *I. senegalensis*. As to other Caucasian countries, formerly the republics of the USSR, *I. fountaineae* is found for sure only in Azerbaijan (BARTENEV, 1912a; 1912b; 1935; AKRAMOVSKY, 1948; 1964; DUMONT, 2004), including a number of specimens misidentified under the name *I. senegalensis*, as it has been stated by HARITONOV (1988). The only report concerning the occurrence of *I. fountaineae* in Armenia, (AKRAMOVSKY, 1948: «semideserts of Armenia», no exact locality stated) was neither based on any of

existing collections, nor confirmed by TAILLY et al. (2004). Therefore, in this paper we present not only the first record of *I. fountaineae* for European Russia and the whole Eastern Europe but also the only reliable specimen for the entire Russian territory. By all appearance, *I. fountaineae* should be a resident species in Kalmykia, nevertheless, the material is still too scarce to come to any certain conclusion.

L. tetraphylla and *S. nigra* are migratory species with patchy distribution. The former ranges to Central Asia, Middle East and Mediterranean (SCHORR et al., 1998). So far, it was recorded in Russia only from Ciscaucasia (Daghestan): three specimens were stated by ARTOBOLVSKY (1929), two by BARTENEV (1912a, 1912b) and one by VON EICHWALD (1830: sub *L. phyllura*, according to SCHORR et al., 1998). No collections are known from Eastern Europe. Within the limits of the former Caucasian region of USSR, *L. tetraphylla* has been recorded from Abkhazia (the only record is Lake Inkitt: BARTENEV, 1929: sub *L. inkiti*), from few localities in Azerbaijan (SELYS, 1887, BARTENEV, 1912a; 1912b; SCHORR et al., 1998; DUMONT, 2004) and probably from Armenia. However, all Armenian records are doubtful (AKRAMOVSKY, 1948; SCHORR et al., 1998) or have been rejected (cf. SELYS (1887) and TAILLY et al. (2004)). We, therefore, consider our collection as the first finding of *L. tetraphylla* in both European Russia and Eastern Europe.

S. nigra, occurs from the Mediterranean through Middle East and Central Asia, to NW China and NW India (LOHR, 2005). The only Russian specimen was recorded in 2000 from southern Ural, Bashkortostan (YANYBAEVA et al., 2006), but no records have been hitherto known from European Russia itself. Like *L. tetraphylla*, *S. nigra* has also been found somewhere in Azerbaijan (BARTENEV, 1912a; 1912b; AKRAMOVSKY, 1948, BOGACHEV, 1951, DUMONT, 2004). Perhaps it may occur in Armenia, according to AKRAMOVSKY's (1948) account («semideserts of Armenia», no specimens cited), although TAILLY et al. (2004) did not find this species there. In contrast, there are no records of *S. nigra* from western Caucasus (Georgia, Abkhazia and Krasnodar Region of

Russia), nor a suggestion by SPURIS (1964) about its presence in Daghestan is supported by any hard data. In view of this we conclude that *S. nigra* was found in European Russia for the first time and in Russia for the second time.

Surprisingly, these two anisopteran newcomers have both proved to be abundant, sometimes even dominant dragonflies (along with some aeshnids) in each of the listed localities during the period between 12 and 29 June, being regularly observed almost everywhere within the investigated area. At first thought, considering their migratory behaviour, *L. tetrphylla* and *S. nigra* were in this area the temporary migrants coming from the South, particularly from neighbouring Daghestan where at least one of them has been encountered. However, their autochthonic occurrence cannot be excluded. Kalmykia is a real odonatological blind-spot, yet its climatic conditions and habitats could fit in with the ecological requirements of a greater number of species ranged largely to the arid landscapes in Central Asia, Middle East and Transcaucasia but seeming not unlikely to be found here, in the outermost south-eastern part of Eastern Europe, as resident species.

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