

## DRAGONFLY RECORDS FROM LAKE BALKHASH, KAZAKHSTAN

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**Abstract** – 10 spp., gathered in June 1992, are brought on record. *Erythromma najas* is for the first time recorded from SE Kazakhstan, while *Sympecma paedisca* is new for central parts of the country. The hitherto known records of *Ischnura aralensis* are mapped, and photographs are presented of some of its structural features.

### Introduction

Lake Balkhash is the second largest freshwater

lake in Asia. Its eastern part is slightly saline, the western part contains freshwater. The two sections are divided by a narrow.

The odonate fauna of the lake is almost unknown. BELYSHEV (1973) mentioned *Sympetrum flaveolum* (L.) from the western shore, and listed *Calopteryx splendens* (Harr.), *Lestes virens* (Charp.), *Sympecma fusca* (Vander L.) and *Sympetrum sanguineum* (Müll.) from the adjacent region. GRIGORIEV (1905) recorded 12 species

from the area between the lake and the Tien Shan mountains. PANIN (1958) gave a list from the

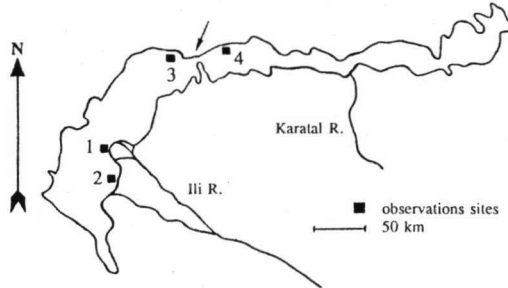


Fig. 1. Lake Balkhash: location of the observation sites. The arrow indicates the freshwater/saline divide.

neighbouring Lake Saysan. In addition, BELY-SHEV (1961) listed 39 species from eastern Kazakhstan, indicating Lake Balkhash as the western border of the region he has covered. A recent review of the odonate fauna of the Kazakh nature reserves was given by BRAGINA & HARITONOVA (1990).

During a field trip (June 8-12, 1992), dragonflies were recorded and collected at 4 sites (Fig. 1).

**Observation sites**

- (1) Mouth of the river Ir (= the name for the lower part of the Ili R.); 8 June. – The Ir takes nutrients into the lake, causing a local clouding. The observation took place by boat, between the reed belt and the open water. In this ca 0.5 km wide zone (depth 1.0-1.5 m), islets of *Schoenoplectus*, *Carex*, and submersed plants (4 *Potamogeton* spp. and a *Myriophyllum* sp.) occur.
- (2) Surroundings of the village Kara-Osek; 8-10 June. – The water temperature of the lake was 16°C, the pH 6.8, and it was very clear. Up to almost 100% of the bottom is covered with *Chara* sp. Only a few patches of *Schoenoplectus* and

*Carex* appear over the water surface. The reed zone is about 1 km wide, bordering a heavily grazed ground and an *Artemisia* dominated steppe. The assessment of odonate abundance was carried out on 9 June, at the landside and at the waterside, during about 3 h around noon.

- (3) Northern shore, about 10 km E of the town of Balkhash; 11 June. – The shore vegetation is much less dense than at sites 1 and 2. The water temperature was 21°C.

- (4) Northern shore, about 60 km E of the town of Balkhash; the lake narrow, i.e. the divide between freshwater and saline, is situated about 15 km to the West. – The water (salinity 5‰) was warm, it is shallow and there is a thin but dense zone of *Phragmites* adjoined by steppe.

Sites 1 and 2 belong to SE Kazakhstan, sites 3 and 4 to the central part (sensu BELY-SHEV & SHEVCHENKO, 1971).

**Annotations on some recorded species**

The records are summarized in Table I.

*Ischnura aralensis* Charitonov (= HARITONOV, 1979; in the subsequent papers, the author himself used the spelling, "Haritonov") – The sole

Table I – The occurrence and estimated abundance of Odonata at Lake Balkhash, Kazakhstan – [Abundance: 1 = 1 individual; – 2 = 2-10 individuals; – 3 = 11-100 individuals; – 4 = 101-1000 individuals; – 5 = > 1000 individuals. – \* = breeding documented by exuviae or teneral]

Species	Abundance			
	Site 1 waterside	Site 2 landside	Site 3 water	Site 4 land land
<i>Ischnura aralensis</i> Charitonov*	-	2	-	-
<i>I. elegans pontica</i> Schmidt*	2	5	4	2 2
<i>Enallagma cyathigerum</i> (Charp.)*	-	3	4	- 2
<i>Erythromma najas</i> (Hans.)*	5	3	4	- -
<i>Lestes macrostigma</i> (Eversm.)	-	1	-	- -
<i>Sympecma paedisca</i> (Br.)	-	-	-	1 -
<i>Anax parthenope</i> (Sel.)	2	2	2	2 2
<i>Libellula quadrimaculata</i> L.	-	2	-	- 2
<i>Orthetrum albistylum</i> (Sel.)	-	2	-	- -
<i>O. brunneum</i> (B. de Fonsc.)	-	-	-	1 -

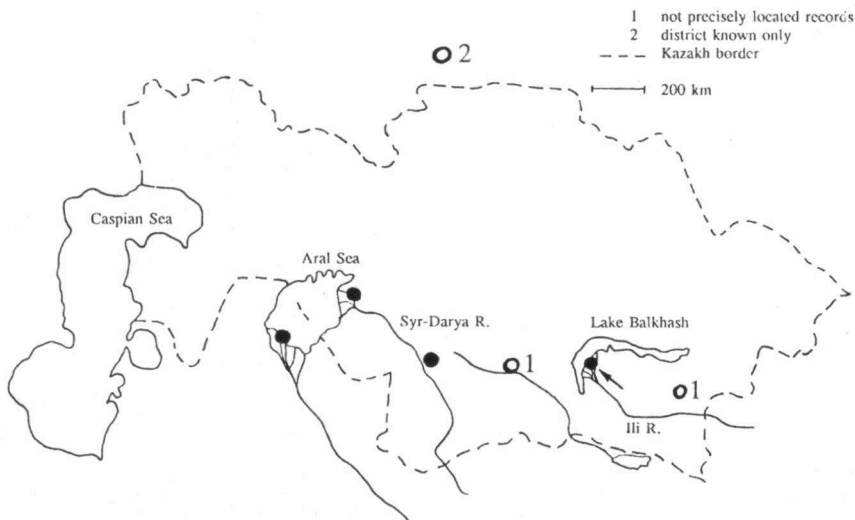


Fig. 2. The hitherto known records of *I. aralensis*. The arrow indicates the area of the present observations.

information on its distribution is to be found in HARITONOV (1984, 1988), viz. "... in the Syr-Darya plain, mainly in the lowlands near the Aral Sea and in the southern Ural Mountains." Consequently, the species seems restricted to the arid and semiarid zones of Central Asia. One might expect it in Mongolia and in China, as well as in Iran and Turkmenistan. The distribution is restricted by the high mountain regions of the Kopet Dag to the SW, the Pamir Alai and Tien Shan to the S, and the Altai to the E. The northern border is certainly the Taiga Forest Zone of the West Siberian Plain. Figure 2 shows the hitherto known records. The species's range is obviously a continuous zone from the southern Ural, across the Aral Sea, to the Chinese border and probably further.

The two females caught are heterochromatic (HARITONOV, 1988), with a strong reduction of the black colour, especially so in the thoracic region. The black antehumeral stripes are completely reduced, and so are the black patterns on the first and second segments, which are orange. Figures 3 and 4 show the prothorax and ovipositor, resp.

*Enallagma cyathigerum* – The specimens caught are referable to the type mentioned by RIS

(1928) from Turkestan. Although HARITONOV (1975) dealt with the North-Eurasian *Enallagma*, the status of various taxa remains unclear.

*Erythromma najas* – This is an unexpected new record for southeastern Kazakhstan (cf. BELY-SHEV & SHEVCHENKO, 1971). The strength of the local population of this species is amazing. Judging from BELY-SHEV (1973) and since SCHMIDT (1954) expressed doubts as to the *najas* occurrence in Iran, our isolated record seems to represent the southernmost limit of the range. – A female was seen predating on a male *Ischnura elegans*.

*Sympetma paedisca* – New for central Kazakhstan, but expected by BELY-SHEV & SHEVCHENKO (1971) and recorded by BRAGINA & HARITONOVA (1990) from the Karatau mountains.

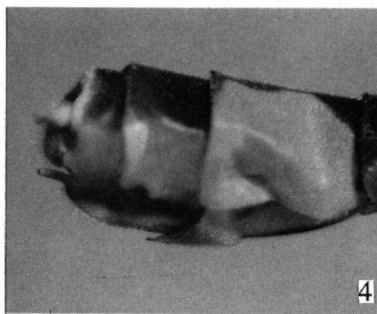
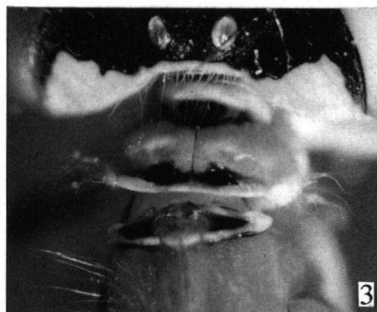
*Anax parthenope* – The most abundant anisopteran dragonfly. It was active within a range of at least 3 km. Some hunting specimens were seen at a distance of up to 1 km from the shore in the steppe and a tandem flight was seen 1 km offshore. One male was carried as prey by a Saxaul Sparrow (*Passer ammodendri*) to its nest.

**Acknowledgements** – I wish to thank Mr R. SEI-

DENBUSCH for the photographs. Helpful comments from Dr Z. SPURIS improved the manuscript. Mrs M. DIAMOND corrected the language.

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Received March 15, 1994



Figs 3-4. ♀: (3) prothorax; – (4) ovipositor. – [Phot. R. Seidenbusch]