

**AESHNA AFFINIS VANDER LINDEN AND SYMPETRUM DEPRESSUSCULUM (SÉLYS)
FOUND IN BELARUS (ANISOPTERA: AESHNIDAE, LIBELLULIDAE)**

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Abstract – The 2 spp. were found in 2001 in the ‘Prypyatski’ National Park (southern Belarus). *S. depressiusculum* is new for the country, *A. affinis* has been recorded for the first time since a single record in 1933. Localities are described and the distribution of the spp. is discussed.

Introduction

Dragonflies of Belarus are poorly known, and few faunistic and ecological papers have been published. In the 1990s a revival in research, has led to an increase in the knowledge of the Belarussian dragonfly fauna and in the number of known species. The aim of this note is to strengthen this work.

Study area and material collected

In 2002 research was conducted in the ‘Prypyatski’ National Park which is situated in southern Belarus, in the centre of Polesye. The park preserves part of the valley of the River Pripyat, the biggest tributary of the River Dnepr. The park

area lies at an altitude of 125-140 m and is covered with old oak forests; it has abundant lakes, old river-arms and low peat bogs (VOITOV, 1998).

Two of the dragonfly species found in the area are particularly interesting for its zoogeography and the state of knowledge of Belarussian dragonflies:

- *Aeshna affinis* – 26-VII-2002, the vicinities of Khlupinska Buda (52°03’N, 28°10’E), a pool in an young sand pit in a forest (area of the pit: ca 4.000 m²). Area: ca 2.500 m², depth: 1,0-1,7 m. Bottom of the pool was sandy and clayey. Water almost colourless, transparent, temperature: 25,5°C, pH: 6,13, conductivity: 43,6 μS-cm⁻², TDS (total dissolved solids): 23,8 mg-l⁻². Vegetation: with *Typha* sp., *Carex* sp., *Spirodela polyrhiza* (L.), *Potamogeton* sp. Material: 1 adult ♂, relatively young, with transparent and undamaged wings. Co-occurring species: adults – *Lestes dryas* Kirby, *L. virens* (Charp.), *Sympetrum sanguineum*

(O.F. Müll.); larvae – *Coenagrion hastulatum* (Charp.), *C. puella* (L.), *Aeshna cyanea* (O.F. Müll.), *Libellula quadrimaculata* L., *Sympetrum sanguineum* (O.F. Müll.).

- *Sympetrum depressiusculum* – 13-V-2002, the vicinities of Khlupin (52°04'N, 28°09'E), valley of the River Pripyat, an astatic old arm of the river in an old oak forest (drying out in September). Area: ca 70 m², depth: 1,5 m. Bottom of clay, with oak leaves. Water dark-tawny, opaque, temperature: 21,1°C, pH: 7,49, conductivity: 410 μS·cm⁻², TDS: 216 mg·l⁻². Vegetation: *Carex* sp., *Alisma plantago-aquatica* L., *Typha latifolia* L. Material: 1 larva. Co-occurring species: *Lestes dryas* Kirby, *Sympetrum vulgatum* (L.).

Discussion

DIJKSTRA & KOESE (2001) listed 43 dragonfly species from the 'Prypyatski' National Park in 1999. Adding the two mentioned in this paper brings the total to 45 species. PISANENKO (1985) compiled the list of 53 dragonfly species of Belarus. Taking into consideration overlooked species, namely: *Lestes barbarus* (Fabr.) and *Somatochlora arctica* (Zett.) (KIPENVARLITS, 1934) and *Lestes viridis* (Vander L.) (RAD-

KEVICH, 1928) the total number should be 56. In recent years *Aeshna crenata* Hag. and *A. subarctica elisabethae* Djak. (MAUERSBERGER, 2000) and *Orthetrum brunneum* (Fabr.) (LEWANDOWSKI & MOROZ, 2001) have also been found. Our record of *Sympetrum depressiusculum* is the first one for Belarus, so the total number of dragonfly species is now 60. *Aeshna affinis* has only been recorded once before, from the Gomel District, where it was one of the rarest dragonflies (WNUKOWSKY, 1937) (Fig. 1).

Both species in the Belarussian fauna are southern ones. *Sympetrum depressiusculum* represents a Mongolian element, *Aeshna affinis*, a Holomediterranean (DÉVAI, 1976). The largest part of the Belarussian area is naturally poor in thermophilous, 'southern' entomofauna, resultings from its severe climate (cf. MARTYN, 1987). Nevertheless, analysis of studies from Poland and the Ukraine indicate that other 'southern' dragonfly species should occur in Belarus. In Ukrainian districts which border on Belarus, *Sympetma fusca* (Vander L.), *Anax parthenope* (Sél.), *Hemianax ephippiger* (Burm.), *Orthetrum albistylum* (Sél.), *Sympetrum fonscolombeii* (Sél.), *S. meridionale* (Sél.) and *S. striolatum* (Charp.) (GORB et al., 2000; SHESHURAK & PADALCO, 1996) occur. *Aeshna affinis* and *Sympetrum depressiusculum* were also repeatedly found. SHESHURAK & PADALCO (1996) noted the presence of *Lestes macrostigma* (Eversm.) and *Coenagrion scitulum* (Ramb.), although those records are doubtful. In Poland the migrations of *Crocothemis erythraea* (Brullé) and *Hemianax ephippiger* reached, in recent years, the areas adjacent to the north-western part of Belarus (BURBACH & WINTERHOLLER, 1997; KALKMAN & DIJKSTRA, 2000). *Anax parthenope* occurs further north (BUCZYŃSKI et al., 2001) and some isolated localities are known even from Lithuania (STANIONYTE, 1993a, 1993b). The expansion of *Orthetrum albistylum* has also been noted, the edge of its range moving north-west by about 400 km (BUCZYŃSKI et al., 2002).

Many 'southern' dragonfly species have recently extended their ranges towards the north or have occurred in central Europe more numerously and occupied more localities (e.g. BUCZYŃSKI et al., 2001; OTT, 2001). The



Fig. 1. Localities of the recorded species in Belarus: (A) new record of *Sympetrum depressiusculum*; – (B) new record of *Aeshna affinis*; – (C) historical records of *A. affinis* (WNUKOWSKY, 1937). Adjacent countries: UKR: the Ukraine; – RU: Russia; – LV: Latvia; – LT: Lithuania; – PL: Poland.

repeated occurrence of some species very near to the Belarus border and the fact that they have not yet been found in Belarus indicates that this country has not been sufficiently faunistically investigated. The recent find of *Aeshna subarctica elisabethae* (MAUERSBERGER, 2000) also indicates this. This West-Siberian species (ST. QUENTIN, 1960) associated with high and transitional peat bogs should have been found in the major part of Belarus because of the suitable habitats for it. Indeed, the species may well have been there for some time but many naturally valuable habitats were situated in areas utilized by the former USSR as artillery ranges. Although scientific research was forbidden in those areas, at the same time they were protected from degradation (IUCN, 1996; MOROZ, 2003). In conclusion there is still much to be learnt about the Odonata of Belarus.

Acknowledgements — We thank A.W. UGLIANETS, the scientific worker at the 'Prypyatski' National Park, for help with the field studies. The research was supported financially by the Józef Mianowski Fund (Poland).

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Received September 14, 2003