

COENAGRION JOHANSSONI (WALLENGREN), AESHNA CRENATA HAGEN AND A. SUBARCTICA ELISABETHAE DJAKONOV FOUND IN BELARUS (ZYGOPTERA: COENAGRIONIDAE; ANISOPTERA: AESHNIDAE)

R.G. MAUERSBERGER

Waldstrasse 4, D-16278 Steinhöfel, Germany

Abstract – 17 spp. were recorded in a peat bog near Polozk in northern Belarus, July 1996. *Aeshna crenata* and *A. subarctica* are new additions to the fauna of the country.

Introduction

In July and August 1996, during an expedition

organized by Dr A. Kozulin (Institute of Zoology, University of Minsk), some lakes were investigated in the northern part of Belarus.

In this article only the results from the 27th of July in a peat bog adjacent to the lake "Tsherbomy-slo" will be considered. The locality is situated in the northeast of the lake region of Polozk (depart-

ment of Witebsk), not far from the Russian border.

Short description of the bog

It is a large *Sphagnum*-bog, influenced obviously also by minerotrophic water. The surface is covered with *Sphagnum* sp., *Andromeda polifolia*, *Ledum palustre*, *Empetrum nigrum*, *Drosera rotundifolia*, *Carex pauciflora*, *Trichophorum* sp. and *Pinus silvestris*. The flora of some flarks in the central part of the bog consists of *Carex limosa*, *Rhynchospora alba*, *Sphagnum* cf. *cuspidatum*, *Drosera anglica* and *D. intermedia*.

The bog also contains a small, lake-like, brown-coloured waterbody (maximum depth 2.6 m, Secchi depth 0.9 m, pH 7.3, carbonate hardness 0.5 mmol/l) with the following vegetation: *Nymphaea*, *Nuphar*, *Potamogeton natans*, *P. praelongus*, *Scorpidium scorpidioides*, *Drepanocladus* sp. *Utricularia vulgaris*, *U. intermedia*, and *U. cf. minor*, bounded by a belt of *Carex limosa*, *C. lasiocarpa*, *C. rostrata*, *C. elata*, *Comarum palustre* and *Menyanthes trifoliata*.

Records

At the flarks 3 ♂ and a ♀ of *Coenagrion johanssoni* were caught and 1 ♂ *A. subarctica elisabethae* (3 additional ♂ sighted), furthermore *Coenagrion hastulatum*, *C. puella*, *C. pulchellum*, *Nehalennia speciosa*, *Leucorrhinia dubia*, *Libellula quadrimaculata*, *Sympetrum danae*, and *S. flaveolum* were seen.

At the small lake, besides *Lestes sponsa*, many *Enallagma cyathigerum* and *Erythromma najas*, *Cordulia aenea*, *Sympetrum vulgatum* and *Leucorrhinia albifrons* were seen, together with 8 ♂ and 2 ♀ of *Aeshna crenata* (2 ♂, 2 ♀ collected). In addition, 5 exuviae of *A. crenata* were found in the *Carex*-belt.

Discussion

Aeshna crenata and *A. subarctica* have not been recorded in Belarus earlier (cf. PISANENKO, 1985). The lake could represent one of the southernmost breeding sites for *A. crenata* in Europe.

The females of *A. crenata* are amber spotted on the fore- and hindwings (between nodus, pterostigma and MA), as considered typical for Eastsiberian specimens (BELYSHEV, 1973).

C. johanssoni (= *C. concinnum* Johansson) was already known for the district of Witebsk (RADKEVICH, 1928).

The accumulation of these northern species in this region is of special interest, but is typical for avifauna also: lake Tsherbomyslo is a breeding site of *Gavia arctica* (Dr A. Kozulin, pers. comm.). The climate of northern Belarus is considerably continental, with -7°C average temperature in January and $+17^{\circ}\text{C}$ in July (SHKLYAR, 1979).

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