

FIRST RECORD OF *AESHNA AFFINIS* VANDER LINDEN, 1820 IN LITHUANIA (ANISOPTERA: AESHNIDAE) AND CORRECTIVE NOTES ON THE LITHUANIAN ODONATA CHECKLIST

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Abstract – In 2003, *A. affinis* was recorded for the first time in Lithuania. Its locality is briefly described. A possibility of its autochthonous occurrence in Lithuania is considered in the context of the type of habitat and the increased abundance of the sp. in the N part of central Europe. Two spp. are postulated to be excluded from the Lithuanian checklist: *Sympetrum eroticum* – as an exotic species, and *Aeshna caerulea* – due to records being misidentifications.

Introduction

Since 2001, a programme of odonatological research directed mainly at stenotopic threatened

species and nomadic expansive dragonflies, has been carried out in Lithuania. It has brought, among other results, a discovery of two new species, *Aeshna crenata* Hagen (BERNARD, 2002) and *Orthetrum brunneum* (Fonscolombe) (BERNARD & IVINSKIS, 2004). Considering the much increased abundance of *A. affinis* in the N part of central Europe (cf. e.g. BERNARD & SAMOLĄG, 1997; BERNARD et al., 2002; OTT, 2001) the discovery of the species in Lithuania was very probable and waited only for the penetration of appropriate habitats.

Results and comments

In 2003, the first locality of *Aeshna affinis* was recorded: a complex of small water bodies Gulbiniai-Bedugnis, E of Raubiškiai, 3.7-4.0 km NW of Magūnai, 0.7-0.8 km N of the N shores of Ungurinis Lake, Švenčionys district, E Lithuania, 54°55'05"N, 25°42'55"E.

On 24 July 2003 one foraging immature female was captured on a *Sphagnum* bog, surrounding the small Bedugnis Lake. However, its presence must have been related to the other parts of the complex, i.e. to shallow swamps, fens and small pools, partly surrounded by forest and astatic (partly dried up), mainly with *Carex elata*, and locally with grasses, *Carex rostrata*, *Sparganium emersum*, *Calla palustris*, *Typha latifolia*, *Lysimachia thyrsiflora* and some *Sphagnum*. Dragonfly fauna in this part of the complex was represented mainly by three numerous species, *Lestes sponsa* (Hans.), *Sympetrum flaveolum* (L.) and *Libellula quadrimaculata* L., additionally by *Aeshna grandis* (L.), *Sympetrum danae* (Sulz.), *S. sanguineum* (O.F. Müll.) and *Leucorrhinia albifrons* (Burm.), the last species originating most probably from the neighbouring Bedugnis Lake.

The immaturity of the female and the habitat typical of the species – astatic waters, at least partly drying up (cf. e.g. UTZERI & RAFFI, 1983; BERNARD & SAMOLAĞ, 1994, 1997; STEPHAN & TREIBER, 1997; STERNBERG et al., 2000) – indicate the autochthony of *A. affinis*. However, its allochthonous origin cannot be excluded as migrations are typical of this nomadic species (PETERS, 1987; BERNARD & SAMOLAĞ, 1997; ASKEW, 2004).

The described record corresponds to the much increased abundance of *A. affinis* in northern parts of central Europe in the 1990s and the 2000s. The previously rare, local and probably only sporadically native species in these areas has recently been recorded at many localities and year by year, appearing not only as a regular immigrant but also, at least locally, as an autochthonous element (BERNARD & SAMOLAĞ, 1997, and many new unpubl. data; BERNARD et al., 2002; OTT, 2001; KREKELS, 2002; ASKEW, 2004). Considering the current colonization of the northern part of central Europe and the limits of the species range reaching

Moscow and Kazan (almost 56° N) in E Europe (PETERS, 1987), a regular and possibly locally autochthonous occurrence of *A. affinis* in Lithuania seems to be very probable at present.

Corrections in the checklist

The checklist of the dragonflies of Lithuania, published 12 years ago, comprised 59 species (STANIONYTĖ, 1993a). *Sympetrum fonscolombii* (Sel.), given previously with a question mark on the basis of 1 female from an old collection (STANIONYTĖ, 1993b), was finally not included in the list. In the years 2001-2003, 3 new species were discovered: *Aeshna crenata* Hag. (BERNARD, 2002), *Orthetrum brunneum* (Fonsc.) (BERNARD & IVINSKIS, 2004) and *A. affinis*. Therefore, the number of species has increased to 62.

Some corrections in the Lithuanian dragonfly checklist are, however, necessary. *Sympetrum eroticum* (Sel.), recorded only once (STANIONYTĖ, 1989), should not be listed as a definitely exotic species in the Lithuanian and European fauna (WASSCHER & BOS, 2000). The origin of that individual was unknown and the species has not been recorded later either at this locality or in Lithuania despite my recent search for it. Various exotic species have sometimes been recorded in Europe (WASSCHER & BOS, 2000).

Aeshna caerulea (Ström) should also be excluded from the checklist because it was certainly erroneously given from Lithuania. STANIONYTĖ (1993a and pers. comm.) reported two localities of this species (only larvae), from the Varėna district (A. Vaitonytė coll.) and Vilnius. The small and young larvae, collected by Vaitonytė in Glynas Lake, an inappropriate habitat for the species, were deposited in T. Ivanauskas Zoological Museum in Kaunas and recently checked by me. They undoubtedly represent a different aeshnid species, with well-developed lateral spines on the 6th abdominal segment already in younger larval instars.

The young larvae collected in Vilnius-Verkiai by A. Stanionytė were not found in her collection. It must be emphasized that Stanionytė has never been sure that she had correctly identified these larvae as question marks indicate, both in her notes (deposited in Institute of Ecology, Vilnius University) and in the original paper

(STANIONYTĖ, 1963). In 2001, she informed me that it is impossible to confirm this identification. An important argument for excluding *A. caerulea* is also the type of habitat which is foreign to the species ('boloto' No.1 and 3 in STANIONYTĖ, 1963 and in her notes). While *A. caerulea* should be stenotopic in lowlands at these latitudes, related to acid *Sphagnum* moorland, especially to water bodies in large peat bogs (ASKEW, 2004; KAURI, 1949; STERNBERG & STERNBERG, 2000), in Vilnius it was reported from two shallow water bodies (fens?) situated on the margin of the big city, not within a large peat bog, ca neutral (pH 6.8-7.4) and overgrown mainly with *Carex* and also with mosses, *Phragmites*, *Schoenoplectus*, *Polygonum*, *Chara*, *Potamogeton*, *Ceratophyllum*, *Myriophyllum*, and *Elodea*.

In the Baltic States, *A. caerulea* occurs in the N, practically solely in Estonia (KAURI, 1949). In Latvia only one old record of a single male is known from the N of the country (BĒRZIŅŠ, 1942; SPURIS, 1993). Hence, its occurrence in Lithuania is hardly possible, though it should not be a priori excluded. However, my recent search in three, theoretically most appropriate, large peat bogs (the Kamanos and Čepkeliai State Strict Nature Reserves, and the Girutiškis Strict Nature Reserve) brought no records of *A. caerulea*.

In conclusion, following the proposed corrections, the number of species known in Lithuania, natives and nomadic immigrants, should be lowered to 60.

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