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New data on the occurrence of *Dryops anglicanus* Edwards, 1909 in Poland (Coleoptera: Dryopidae)

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Abstract: Authors present and discuss the record of *Dryops anglicanus* in a transitional peat-bog near Wdzydze Kiszewskie (Pomeranian Lake District, northern Poland). The discussed beetle is a Middle-European species. Its study sites in Poland are not numerous (6, including the new one) and seem to be isolated (200-400 km from the closest study sites in Germany, Czech Republic, Slovakia and Latvia). However, this can be result of the incomplete knowledge about this species. Taking into consideration the rarity of its occurrence, dispersal of study sites and stenotopic character, *D. anglicanus* should be included into the new version of Red List of threatened animals in Poland.

Key Words: Insecta, Coleoptera, Dryopidae, aquatic beetles, Poland, Pomeranian Lake District, distribution, habitat, new recrods.

Dryops anglicanus is one of the 12 recorded species in Poland of the family Dryopidae and 11 of the genus *Dryops* Olivier, 1791 (Więźlak 1986). Dryopidae are associated with water shores: Jäch (1998) includes them to the so called "shore beetles".

Due to many reasons, especially the difficulties in determining Dryopidae and small number of researchers, little faunistic and ecological information about these beetles is known, also from the area of Poland. However, against this background, *D. anglicanus* is one of the rarest species (Konwerski and Przewoźny 2004).

While conducting the studies in the Wdzydze Landscape Park in Kaszuby (faunistic region – Pomeranian Lake District, geographic region – South Pomeranian Lake District (Burakowski et al. 1983; Kondracki 2000)), new study sites of *D. anglicanus* were found.

D. anglicanus was present in the Ecological Ground „Kiszewskie Bagno" – 1,2 km to the E-SE of Wdzydze Kiszewskie, 54°00'27" N, 17°57'33" E, UTM: XV98, 114 m

a.s.l. This is a transitional peat bog surrounded by mixed forest with a dominance of *Pinus sylvestris* L., the central area is grown by *P. sylvestris* and *Alnus* sp., *Carex* spp. forming clumps with the addition of *Comarum palustre* L. are dominating herbaceous vegetation. The substratum of *Sphagnum* is highly hydrated (seal water, the level reaches up to 40 cm), however, there are no open water bodies. The peat bog is relatively rich what results in the expansion of trees and the relatively numerous presence of: *Asellus aquaticus* (L.), Bivalvia, larvae of Ephemeroptera in the collected hydrobiological sample.

The specimen of discussed species (1♂) was caught on August 2, 2007 in opened and marginal part of the peat bog (Fig. 1) with a hydrobiological net in sphagnal "soup" with large addition of *Utricularia vulgaris* L. and single specimens of *Hottonia palustris* L. In the sample: *Hydaticus seminiger* (De Geer, 1774) (1♂) (Dytiscidae) and *Enochrus affinis* (Thunberg, 1794) (1♂) (Hydrophilidae) were found too.

D. anglicanus is a Middle-European beetle recorded from: France, Great Britain, Holland, Germany, Austria, Hungary, Czech Republic, Slovakia, Poland, Latvia, Estonia, Denmark, Sweden, Norway, "Russian Fennoskandia", Greece and Italy (Alonzo-Zarazaga and Jäch 2004; Jäch and Prokin 2005). In the south of Europe *D. anglicanus* is a postglacial relict (Cornacca et al. 2004). In the countries where this species was recorded it is rare and included into Red lists or books (e.g. Binot et al. 1998; Painter 1999; Cornacca et al. 2004; Boukal 2005).

In the present area of Poland, *D. anglicanus* was recorded vaguely from "Prussia" and "Pomerania" in the interwar period. Next data referred to the sites was given in the 80's (Burakowski et al. 1983; Więźlak 1986): two in Mazurian Lake District and one in the Mazovian Lowland. In the recent years, the discussed species has been found only in Białowieża Primeval Forests and the Great Poland-Kujawy Lowland (Kubisz 2001; Konwerski and Przewoźny 2004). Thus, the site presented in this paper is the first record for Pomeranian Lake District, the 6th one in general and the 3rd contemporary one for Poland.

In Russia *D. anglicanus* was caught mainly in sphagnal peat bogs (Jäch and Prokin 2005), in Italy in small water bodies grown by sedges (Cornacca et al. 2004), in Great Britain it is regarded as a fenland specialist (Drane 2006). Klausnitzer (1996) found this species as a tyrphophilous one. It was also recorded in glue sediments by the edges of a sea bay in Latvia (Telnov et al. 2005) or given as a characteristic species of the assemblages of some running waters of Holland (Olde Venterink et al. 1998). However, this phenomenon is typical of tyrphophilous taxa developing in marshy environment of the margins of non-fen waters which is the initial stage of a fen (Przewoźny et al. 2006).

Habitat of the discussed species is known only from the Great Poland-Kujawy Lowland: those were alluvials by the shores of Lake Lusowskie (Konwerski and Przewoźny 2004) – the water body of low eutrophy state (WIOŚ 2001). This correlates with the remarks of Przewoźny et al. (2006). However, the site in Kiszewskie Bagno seems to correspond in large part with something that can be called optimal environment for *D. anglicanus*. Perhaps paying more attention to sphagnal peat bogs can result in more data concerning the species and allow to estimate its numbers as well as threats in Poland. Despite its rarity in occurrence and the including to one of a stenotopic ecological elements, the species has not been included to the national Red list (Pawłowski et al. 2002). It seems to be that this species should be there, with DD category at least.

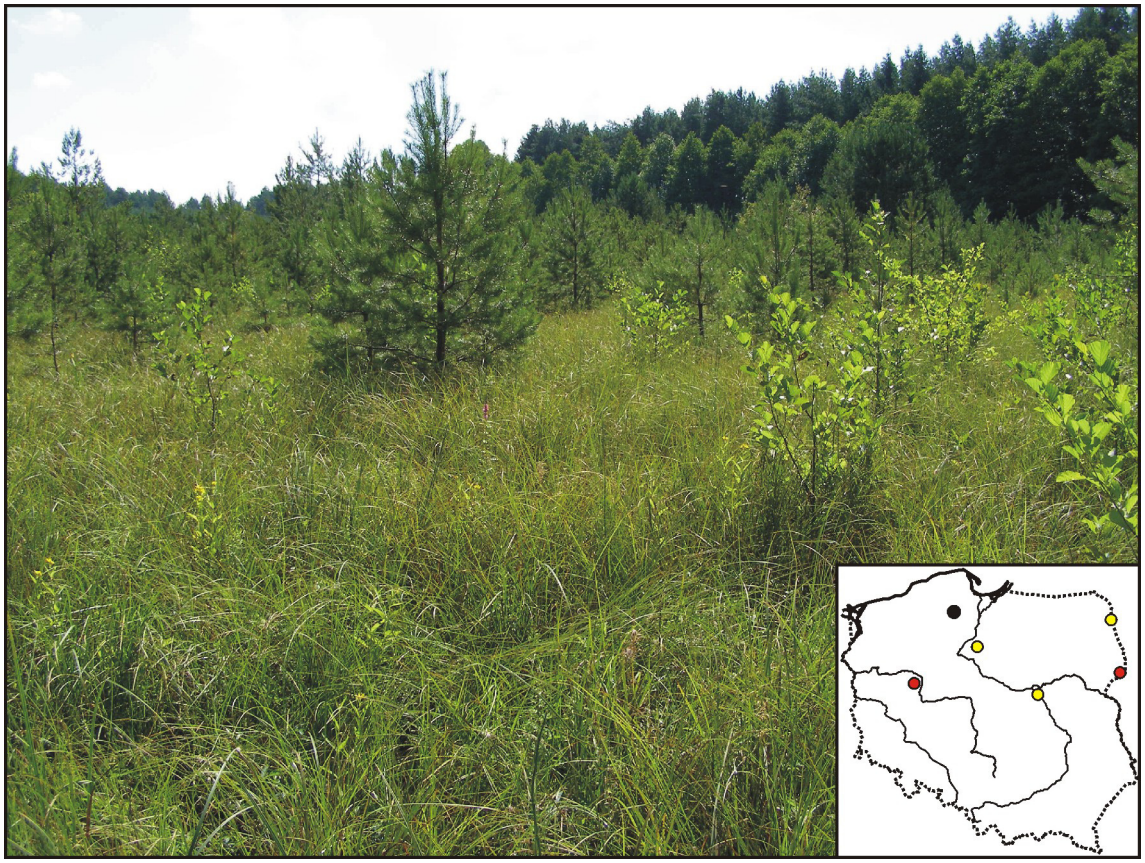

Fig. 1. The habitat of *Dryops anglicanus* in the Tuchola Forest and its distribution in Poland: yellow spots – Więźlak in Burakowski et al. (1983), Więźlak (1986); red spot – newer records (Konwerski and Przewoźny 2004, Kubisz 2001); black spot – new record.

Taking into consideration the present state of knowledge, the area of occurrence of *D. anglicanus* in Poland seems to be isolated. The nearest know site from neighbouring countries is situated by Berlin, 200 km to Lusowo in Great Poland-Kujawy Lowland (Braasch et al. 2000; Konwerski and Przewoźny 2004). Czech and Slovak sites are 300-400 km far from Dziekanów Leśny, Latvian ones – 450 km from Rubców (Burakowski et al. 1983; Šporka 2003; Boukal 2005; Telnov et al. 2005). However, it is hard to exclude the link with at least German part of the range because new data from Kaszuby show that many populations of *D. anglicanus* can wait to be discovered in Pomerania. The gap to the north and east of Masuria and Suwałki Region can also be false because there is no data from Russian Kaliningrad District – not only on aquatic beetles but on e.g. much better studied dragonflies (cf. Buczyński 2008). It shows large lack in the knowledge on the occurrence of *D. anglicanus* in particular as well as Dryopidae in general in the northern part of Central Europe. The lack of data makes the certain determining of the range impossible, as well as establishing the frequency of the occurrence and threats. Filling the gap is the challenge for next years, especially for coleopterologists from Poland, Russia and Lithuania.

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