

First documented record of *Gomphus pulchellus* in the Czech Republic (Odonata: Gomphidae)

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Abstract

One male of *Gomphus pulchellus* was recorded and photographically documented on 08 June 2014 near the township Lány, ca 40 km west of Prague.

Zusammenfassung

Erster dokumentierter Nachweis von *Gomphus pulchellus* für die Tschechische Republik (Odonata: Gomphidae) – Ein Männchen von *G. pulchellus* wurde am 08. Juni 2014 nahe der Ortschaft Lány (Lana), ca. 40 km westlich von Prag, beobachtet und fotografisch dokumentiert.

Abstrakt

První zdokumentovaný nález *Gomphus pulchellus* v České republice (Odonata: Gomphidae) – Klínatka *G. pulchellus* byla poprvé nalezena a zároveň dobře fotograficky zdokumentována na území České republiky. Nálež byl uskutečněn 8. června 2014 jižně od obce Lány, střední Čechy, přibližně 40 km západně od Prahy.

Introduction

Gomphus pulchellus is an endemic species in western Europe, regularly and often abundantly occurring on the Iberian Peninsula, in France, Belgium, Switzerland, the Benelux countries, and the western part of Germany (ASKEW 2004; DIJKSTRA & LEWINGTON 2006). A growing number of records during the last decades indi-

cate that it tends to expand its range eastwards (e.g., RUDOLPH 1980; MONNERAT 2005; BUCZYŃSKI et al. 2013; SUHLING in press). Nevertheless, until spring 2014, the occurrence in Czechia has not been reliably confirmed although there are records in Bavaria just ca 10 km from the Czech west border (KUHN 1998; BUND NATURSCHUTZ IN BAYERN 2014; M. Winterholler and B. Kunz, pers. com.). However, despite having been expected to appear first on streams in the very western part of Bohemia, an individual of *G. pulchellus* was recently recorded near Prague. This finding is reported here.

Record

A mature male of *Gomphus pulchellus* (Fig. 1) was recorded on 08 June 2014 ca 40 km west of Prague, south of the small town Láňy at a locality named «Pánova louka» (50.10847°N, 13.944969°E, altitude 415 m a.s.l.) by a fishpond (Fig. 2). The dragonfly was observed for more than an hour around noon, most of the time perching on the water side of the sedges on the bank of the pond. It changed the perch from time to time after disturbances by males of *Orthetrum cancellatum* and *Anax imperator* passing by.



Figure 1. *Gomphus pulchellus* male, recorded south of Láňy, Central Bohemia CZ (8-vi-2014). – Abbildung 1: Männchen von *Gomphus pulchellus*, beobachtet bei Láňy, Mittelböhmen (08.06.2014). Photo: LV

The respective fishpond belonged to a small pond system surrounded by forest. The pond itself used to be a swimming pool with banks stabilized by concrete panels that were overgrown by lush herbaceous vegetation consisting of *Carex paniculata*, *Juncus effusus*, *J. inflexus*, and *Typha latifolia*. The water was clear, with transparency of ca 0.6 m, the bottom was mostly sandy with clay patches, fish were scarce comprising mainly perch (*Perca fluviatilis*). The banks were open and treeless. The other two ponds eastward were different, with high fish stock and turbid water, closely surrounded by trees. At the ponds, *Orthetrum cancellatum*, *Platycnemis pennipes*, and *Ischnura elegans* were the most abundant odonates. Widely common species such as *Enallagma cyathigerum*, *Coenagrion puella*, *Libellula quadrimaculata*, *Anax imperator*, and *Somatochlora metallica* were also present, but in lower numbers. No other large waterbodies existed nearby, the closest one was Klíčava Reservoir 4 km further south. As a water course suitable for gomphids, there was Berounka River about 8 km south, coming from west Bohemia.

Discussion

Gomphus pulchellus is considered an endemic species to Southwest Europe, ranging northwards to the Netherlands, and eastwards reaching the western part of



Figure 2. Record site of *Gomphus pulchellus* in Czechia, a fishpond south of Lány, Central Bohemia. – Abbildung 2: Fundort von *Gomphus pulchellus* in der Tschechischen Republik, ein Weiher südlich von Lány (Lana), Mittelböhmen. Photo: MW

Germany and Austria (DIJKSTRA & LEWINGTON 2006). Single records are reported from northern Italy (SCHNEIDER & UTZERI 1994) and Croatia (SCHNEIDER 1984), but these may just be incidental as no stabile populations are known there. However, recently a record of the larva of *G. pulchellus* was reported from Montenegro (BUCZYŃSKI et al. 2013) which may indicate a viable population, though further confirmation would be desirable. *Gomphus pulchellus* is also reported from Slovakia (DUDICH 1958), Romania (PLATTNER 1968), and Macedonia (BESCHOVSKI 1994), but these records are given without any verifiable evidence or they were erroneous or considered doubtful (SUHLING & MÜLLER 1996; ASKEW 2004; BUCZYŃSKI et al. 2013). The same is true for a former record reported from South Bohemia by FLÍČEK (2000) although it is incorporated in the recent Czech highly detailed dragonfly monograph (DOLNÝ et al. 2007). However, according to JEZIORSKI & HOLUŠA (2011) this record from 10 August 1967 at ponds in South Bohemia is unreliable and unverifiable. According to J. Flíček (pers. com.), the voucher specimen has been destroyed by pests and there are no photographs available. Furthermore, neither the exact locality nor the number of individuals is given, and the record itself was published more than thirty years later by FLÍČEK (2000). In the most recent odonate checklist of the Czech Republic, *G. pulchellus* is omitted, listed only among species with possible occurrence (JEZIORSKI & HOLUŠA 2012).

In Germany, the eastward expansion is documented during the late 20th century (SUHLING & MÜLLER 1996; WILDERMUTH & MARTENS 2014). To reach regions situated further east of Czechia, the corridors of Naab and Main Rivers might be important as both originate in the same region as the eastward flowing river Ohře (Eger). This corresponds to the nearest known records of *Gomphus pulchellus* in Bavaria ca 10 km west of the Czech border in watersheds of the tributaries of the rivers Regen and Naab (M. Winterholler and B. Kunz, pers. com.; KUHN 1998; BUND NATURSCHUTZ IN BAYERN e.V. 2014). Recently, the species is also reported reaching the river Elbe in northern Germany which may constitute another suitable corridor for eastward expansion (F. Suhling, pers. com.).

It is noteworthy that within Gomphidae an expansion of the range is rather exceptional as there are no such tendencies in the other species of this family at least in Europe although e.g. *Lindenia tetrphylla* is known to form migratory swarms (SUHLING & MÜLLER 1996). It seems likely that an expansion of *G. pulchellus* may be facilitated by human activities such as extraction of gravel or sand, providing additional breeding habitats (SUHLING & MÜLLER 1996). This species, similarly to other gomphids, inhabits preferably sluggish rivers with fine sediments, which especially applies to the habitats of the core area, i.e. in South-west Europe. However, towards the eastern part of its range, it readily shifts its breeding sites to still waters with sparse riparian vegetation such as sand, clay and gravel pits, oxbows, ponds, and lakes in open landscape (MÜLLER & SUHLING 1990; SUHLING 1994). Our record, though rather incidental, seems to match these habitat requirements.

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References

- ASKEW R.R. (2004) The Dragonflies of Europe (second edition). Harley Books, Colchester
- BESCHOVSKI V. L. (1994) Comparative zoogeographical review of Odonata fauna of Bulgaria (Insecta: Odonata). *Acta Zoologica Bulgarica* 47: 3-15
- BUCZYŃSKI P., A. ZAWAL, E. STĘPIEŃ, E. BUCZYŃSKA & V. PEŠIĆ (2013) *Gomphus pulchellus* Selys recorded on the eastern edge of its distribution area in Montenegro (Anisoptera: Gomphidae). *Odonatologica* 42: 293-300
- DIJKSTRA K.-D. & R. LEWINGTON (2006) Field Guide to the Dragonflies of Britain and Europe. British Wildlife Publishing, Gillingham
- DOLNÝ A. (2007) *Gomphus pulchellus* Sélys, 1840 – klínatka západní. pp. 436-437. In: DOLNÝ A., D. BÁRTA, M. WALDHAUSER, O. HOLUŠA, L. HANEL et al. (2007) Vážky České republiky: Ekologie a ochrana rozšíření. (The Dragonflies of the Czech Republic: Ecology, Conservation and Distribution). Český svaz ochránců přírody, Vlašim
- DUDICH E. (1958) Die Grundlagen der Fauna eines Karpaten-Flusses. *Acta Zoologica Hungarica* 3: 179-200
- BUND NATURSCHUTZ IN BAYERN e.V. (2014) Libellenkartierung in Bayern / Atlas der Libellen Deutschlands. Online im Internet (08.10.2014), URL: http://www.bund-naturschutz.de/fileadmin/_migrated/content_uploads/ask-stand-libellen.pdf
- FLÍČEK J. (2000) Současný stav inventarizačního průzkumu vážek rašelinišť povodí Lužnice. (A current state of the knowledge of the dragonflies (Odonata) of peat bogs around the river Lužnice). In: HANEL L. [ed.] Sborník referátů III. celostátního semináře odonatologů v CHKO Třeboňsko 2000: 60-65. ZO ČSOP Vlašim.
- JEZIORSKI P. & O. HOLUŠA (2011) *Gomphus pulchellus* Sélys, 1840 does not belong to the dragonfly (Odonata) fauna of the Czech Republic. *Časopis Slezského Zemského Muzea, Série A, Vědy Přírodní* 60: 217-222
- JEZIORSKI P. & O. HOLUŠA (2012) An updated checklist of the dragonflies (Odonata) of the Czech Republic. *Acta Musei Beskiden-sis* 4: 143-149
- KUHN K. (1998) Westliche Keiljungfer *Gomphus pulchellus* Sélys 1840. In: KUHN K. & K. BURBACH (eds) Libellen in Bayern: 110-111. Ulmer, Stuttgart
- MONNERAT C. (2005) *Gomphus pulchellus* Sélys, 1840. In: WILDERMUTH H., Y. GONSETH & A. MAIBACH (eds) Odonata – Die Libellen der Schweiz: 176-179. Fauna Helvetica 12, CSCF/SEG, Neuchâtel
- MÜLLER L. & F. SUHLING (1990) Verbreitung und Ökologie der Westlichen Keiljungfer *Gomphus pulchellus* Sélys, 1840, in Südostniedersachsen (Odonata: Gomphidae). *Braunschweiger Naturkundliche Schriften* 3: 655-667
- PLATTNER H. (1968) Bemerkungen über die Larven und Exuvien der Odonaten Rumäniens. *Faunistische Abhandlungen des Staatlichen Museums für Tierkunde, Dresden* 7: 51-60

RUDOLPH R. (1980) Die Ausbreitung der Libelle *Gomphus pulchellus* Selys 1840 in Westeuropa. *Drosera* '80: 63-66.

SCHNEIDER. W. (1984) Zum Nachweis von *Gomphus pulchellus* Selys 1840 in Jugoslawien (Odonata: Anisoptera: Gomphidae). *Entomologische Zeitschrift* 94: 109-111

SCHNEIDER W. & C. UTZERI (1994) *Gomphus pulchellus* Sel. new to the Italian Odonata fauna (Anisoptera: Gomphidae). *Notulae Odonatologicae* 4: 72-73

SUHLING F. (1994) Spatial distribution of the larvae of *Gomphus pulchellus* Selys. *Advances in Odonatology* 6: 101-111

SUHLING F. (in press) *Gomphus pulchellus* Selys, 1840. In: Verbreitungsatlas der Libellen Deutschlands. *Libellula Supplement* 14

SUHLING F. & O. MÜLLER (1996) Die Flussjungfern Europas. Die Neue Brehm-Bücherei 628, Westarp-Wissenschaften, Magdeburg, & Spektrum Akademischer Verlag, Heidelberg

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