

## ***Pantala flavescens* – a new species for the fauna of Bulgaria (Odonata: Libellulidae)**

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**Abstract.** A male of *Pantala flavescens* was observed on 30 July 2012 in the Western Rhodope Mountains in the southwest of Bulgaria. This species is new for the Bulgarian fauna. The observation was made along a stream, away from suitable breeding habitat. Therefore, we consider our observation to be of a vagrant individual.

Key words. Dragonfly, Anisoptera, first record

### **Introduction**

The Globe Skimmer (*Pantala flavescens*) (Fabricius, 1798), as its vernacular name suggests, is a well-known migrant (CORBET 1999). It can disperse enormous distances from its breeding areas and is able to cross oceans (ANDERSON 2009; HOBSON et al. 2012) or to fly over high altitudinal passes (WOJTUSIAK 1974; BORISOV 2012). It even migrates at night, crossing seas at altitudes of up to 1,000 m, with higher densities at about 200 to 500 m during mass migrations (FENG et al. 2006). *Pantala flavescens* has an overall circumtropical distribution and is a common species in most of Africa, South and Central America, Oceania and Asia (REICHHOLF 1973; CORBET 1979; LARSEN 1987; HAWKING & INGRAM 1994; SILSBY 2001; MAY 2013). In the Northern Hemisphere the species is known to occur regularly up to 52–53°N in the USA or Canada, and sometimes also to the same latitude in eastern Asia (GORB & FURSOV 1990; CORBET 1999). In the Western Palaearctic however, it is less widespread and the number of records from Europe remains surprising low and mostly confined to the Eastern Mediterranean (LAISTER 2005; OBER 2008; BOUDOT et al. 2009).

The Bulgarian dragonfly fauna has been relatively well studied (BOUDOT et al. 2009; KUTSAROV et al. 2012). Nevertheless, several regions are still under-surveyed, or the regional inventory is based on rather old records (< 1980), so that even in the well investigated regions several new additions to the regional fauna list may still be made.

### **Study area**

Field investigations were carried out along the River Pirinska Bistritza (41°27'59"N, 23°26'55"E) near the hamlet of Chereshnitsa, less than 3 km northeast of Katuntsi in the Western Rhodope Mountains, Bulgaria. The river has here a breadth of 3–5 metres and is bordered by a narrow forest belt. The surrounding hilly landscape

is predominantly formed of forest and extensively used grasslands and to a smaller extent also by areas of crop cultivation. The water quality seems to be very good and no pollution was evident. Other Odonata species found at this location on the same date were *Calopteryx splendens* and *C. virgo*, both very abundant, together with *Onychogomphus forcipatus* in very low numbers (< 5 imagines). The days preceding and throughout our visit were extremely warm, with temperatures rising to 40°C. The typical weather pattern for that period was for the heat to build up during the day, followed by heavy thunderstorms and summer rains in the late afternoon.

### Results

On 30-vii-2012, a male of *P. flavescens* was seen hovering and patrolling over an abandoned grassland with patchy thorny scrub, adjacent to the river. The male was observed for nearly 20 minutes. Most of the time it was hunting for insects, which were caught in flight. During the observation period, it alighted only once for approximately one minute, perching vertically on top of a thorny shrub. Approaching heavy winds preceding a summer thunderstorm caused the male to flyaway over the canopy of the riverine forest.

### Discussion

Within the Western Palaearctic, most records of *Pantala flavescens* originate from the Middle East where (as in Turkey) it is regularly observed, although there are no established breeding populations (DUMONT 1977; SEIDENBUSCH 1995; JÖDICKE 1998; ARLT 1999; AYDIN 2006; HACET & AKTAÇ 2006; KALKMAN & VAN PELT 2006; SALUR et al. 2012) or the Levant (DUMONT 1991; MONNERAT & HOESS 2011). It is only very sporadically observed in North Africa, with records from Morocco (JÖDICKE 1995), Tunisia (JÖDICKE et al. 2000) and Egypt (BOUDOT et al. 2009; DIJKSTRA & BOUDOT 2010). In January 2013 it was for the first time observed in the Canary Islands, namely on Gran Canaria, over several days (MARTÍNEZ-DARVE SANZ & CANO-VILLEGAS 2014). Although politically belonging to Spain, the Canary Islands are biogeographically part of Africa. And as recently as November 2014 first record of the species was made for the Azores (São Miguel island) representing its northernmost record in Macaronesia (VIEIRA & CORDERO-RIVERA 2015). The rarity of occurrence of the species in North Africa might be explained by the arid Saharan belt, which divides North Africa from Sub-Saharan Africa, where *P. flavescens* is common and widespread. The Sahara also seems to be responsible for the nearly complete absence of the species in most parts of Europe (LAISTER 2005; BOUDOT et al. 2009; BUCZYŃSKI et al. 2014).

*Panala flavescens* is known only from a very limited number of records from eleven European countries. Probably the highest number of records is from Cyprus (KIAUTA 1963; SPARROW et al. 2015) where the species is a very rare migrant, which might be explained by the close proximity of Cyprus to the Middle East and the

Nile valley, where *P. flavescens* is more frequently encountered. Nevertheless in some years such as 2007 several individuals were recorded (SPARROW et al. 2015). In the last decade, the species was recorded from several localities and countries in Europe. It was found for the first time on the Italian Pelagic Islands of Lampedusa and Linosa in 2010 and 2012 (CORSO et al. 2012). Furthermore, three specimens were recorded in 2013 on the island of Malta (GAUCI 2014) and FINKENZELLER (2010) observed at least three individuals patrolling above a beach on Krk Island (Croatia). Apart from the records in Cyprus, the oldest European record is that of a male from Herceg-Novi (Montenegro) which was only discovered 35 years later in the collection of the State Museum of Natural History in Stuttgart (OBER 2008). In Greece, *P. flavescens* was observed on Rhodes Island (LAISTER 2005) and in 2005 in the delta of the Evros River at the border with European Turkey. In the latter, *P. flavescens* was caught at three sites (HACET & AKTAÇ 2004) and on Gökçeada Island (HACET & AKTAÇ 2006). All these observations fall within the Mediterranean region. The most remarkable European record was a male found in an ornithological trap on the Courish Spit, Kaliningrad Oblast, western Russia in 2013 (BUCZYŃSKI et al. 2014). The number of records and countries in Europe from which *P. flavescens* has been observed has clearly been increasing since 2010. This might be caused by increased occurrence of the species in Europe but might also be explained by a greater rates of detection due to better knowledge of the species by increasing numbers of odonatologists.

Our observation of *P. flavescens* represents the first record for Bulgaria and increases the total number of Odonata species for the country to at least 70. The Bulgarian location is situated at less than 10 km from Greece and approximately at 230–300 km from the localities in the Evros delta and in European Turkey. The observation of *P. flavescens* in the western Rhodope falls within the Eastern Mediterranean and within the Eastern Balkans, the region from which most European records originate.

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