

# First record of *Pantala flavescens* for Croatia (Odonata: Libellulidae)

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## Abstract

On a short holiday trip to the island of Krk, Croatia, at least three individuals of *Pantala flavescens* were observed, patrolling along a beach near Stara Baška. This is the first record for Croatia.

## Sažetak

Prvi nalaz vrste *Pantala flavescens* za Hrvatsku (Odonata: Libellulidae) – Tijekom posjeta otoku Krku u Hrvatskoj, promatrane su barem tri jedinke vrste *Pantala flavescens*, kako patroliraju uzduž plaže kraj Stare Baške. Ovo je prvi nalaz vrste za Hrvatsku.

## Zusammenfassung

Erstnachweis von *Pantala flavescens* für Kroatien (Odonata: Libellulidae) – Während eines einwöchigen Aufenthalts auf der Insel Krk konnten am 31. August 2010 mindestens drei Individuen von *P. flavescens* beobachtet werden, die an einem Strand bei Stara Baška auf und ab patrouillierten. Für Kroatien ist dies ein Erstnachweis.

## Introduction

*Pantala flavescens* is a strong migrant, with a circumtropical distribution (DIJKSTRA 2006), that randomly reaches the eastern Mediterranean (ARLT 1999; HACKETT & AKTAÇ 2004, 2006; LAISTER 2005; OBER 2008). Previous records from the western Mediterranean in Spain and France are most likely based on misinterpretation (BOUDOT et al. 2009). With a recent sighting from the island of Krk I can present another European record from the Mediterranean. This finding represents the northernmost record of *Pantala flavescens* in the Mediterranean to date, and in all likelihood the northernmost record in Europe that does not pertain to individuals displaced by, e.g., banana shipping (e.g. KIPPING 2006).

## Observation

On 31-viii-2010 I was able to observe at least three individuals of *Pantala flavescens* in flight at the very same time. Location was a small bay of the Adriatic Sea with pebble beach, approximately 2.6 km northwest of Stara Baška (44°58'2"N, 14°39'45"E) on the island of Krk, Croatia. During the time between 15:00 and 15:30 h CEST, *P. flavescens* were constantly patrolling up and down the beach. The dragonflies could be observed closely in flight, at a minimum distance of between 1 and 2 m. The yellowish abdomen colour was distinct, with some black marks visible. The weather conditions before the sighting at Stara Baška included heavy rainfall and 'Jugo' winds on 28- and 30-viii-2010, i.e. for three days before my observation of *P. flavescens*.

## Discussion

The European records of *Pantala flavescens* were summarised recently by OBER (2008). He discussed two possible migration paths that could have been used by *P. flavescens* to reach southeastern Europe. One route leads from the Nile Valley along the east Mediterranean coast (first mentioned by LAISTER 2005), whilst the other possible route is a straight crossing of the Mediterranean Sea. According to ANDERSON (2009), *P. flavescens* is able to fly distances of up to 1000 km over open water. Consequently, the open Mediterranean Sea may not be regarded as enough of a barrier to prevent *P. flavescens* from undertaking a straight crossing.

The origin of the observed individuals may be either southeastern or southwestern regions of North Africa. The observation of *P. flavescens* on Krk does not exclusively support one of these hypothetical migration paths. In my view the 'eastern route' would appear the more likely option, since the majority of records in the Mediterranean region come from the east (BOUDOT et al. 2009). Whether the Nile valley or other destinations are the source of these individuals should be witnessed by genetic analysis. The study by ANDERSON (2009) would also leave room for the hypothesis that the observed individuals might have their origin in Asia.

The recent observation from the island of Krk is approximately 400 km NNW of the record taken in Montenegro, which dates back to the year 1972 (OBER 2008). Among the documented observations of *P. flavescens* in the eastern Mediterranean (e.g. HACET & AKTAÇ 2004, 2006; OBER 2008; BOUDOT et al. 2009) this represents the northernmost record of the species. According to LAISTER (2005), Kipping (2006), OBER (2008) and BOUDOT et al (2009), other records in western Europe are either doubtful (Spain, France) or may pertain to passively displaced individuals (England, Germany). The possibility of passive displacement of the observed individuals through global trade (KIPPING 2006) also cannot be ruled out completely for this new record from Krk.

With an area of 410 km<sup>2</sup>, Krk is the biggest island in the Adriatic Sea. It belongs to Croatia and is located directly off the coast, with a minimum distance of only

600 m to the mainland. The odonate fauna of the island of Krk was thoroughly investigated in a two years study (OLIAS & SERBEDJIA 1998). The authors recorded 14 species as new to the island. The possibility that they overlooked a potential occurrence of *P. flavescens* in 45 investigated habitats must be regarded as small, although the authors mention there was a notable gap in their investigation during July. With regard to the ecological requirements of *P. flavescens*, it can be assumed that an established permanent population may not be expected on the island. However, due to the rapid larval development within approximately 35 days (SUHLING et al. 2003), a reproduction in the Mediterranean area and in particular for the island of Krk cannot be ruled out *a priori*. With 41 species in total, this island has one of the richest Odonata faunas within the Mediterranean islands (OLIAS & SERBEDJIA 1998).

The observed individuals were rather yellower than the specimens shown in some books (e.g. ASKEW 1988: pl. 29; KALKMAN & van PELT 2006: 146; BOUDOT et al 2009: 198).

They best match the female depicted in DIJKSTRA (2006). Hence, the observed individuals could have been females or probably teneral individuals of *P. flavescens*. All observed dragonflies were flying restlessly and not one would perch. During flight a very straight abdomen posture, typical for the species, was noticed.

Because this was a very short trip, I was not able to visit the two known freshwater lakes of Ponikve and Njivice on Krk. Both these locations were judged as potentially suitable reproduction habitats for the species (N. Mihoković pers. comm.).

Whether or not the meteorological conditions prior to the observation had an impact in bringing the observed individuals of *P. flavescens* to Krk is left to speculation. As a strong and effortless flier, *P. flavescens* makes good use of the winds from a high-pressure to a low-pressure area in order to conquer new territories (CORBET 1999: 650, table A.10.7). Furthermore, *P. flavescens* has been shown to be able to compensate for wind drift to hold a true course and minimize the distance flown (SRYGLEY 2003). It is also possible in this case that the bad weather and strong winds on the day before helped *P. flavescens* to ride these air currents and reach the island of Krk.

According to Croatian odonatologists (N. Mihoković pers. comm.), no other observations of *P. flavescens* have been recorded in Croatia up to now. This species is new to the Croatian fauna.

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