

Short scientific noteSubmitted: March 8th, 2021 – Accepted: September 18th, 2021 – Published: November 30th, 2021

DOI: 10.13133/2284-4880/476

First records of *Trithemis kirbyi* Selys, 1891 in the Maltese Islands (Odonata: Libellulidae)

Charles GAUCI

28 Triq il-Kissier, Mosta, Malta – cjgauci48@yahoo.com

Abstract

In this contribution the author reports the first sightings of *Trithemis kirbyi* Selys, 1891 in the Maltese Islands. Two single males were found at Imselliet Valley and Chadwick Lakes on 17 May 2020 and 13 Aug 2020 respectively.

Key words: Imselliet, Chadwick Lakes, central Mediterranean, spreading northwards, global warming.

Introduction

Trithemis kirbyi is one of four *Trithemis* species found in Europe and is the most recent dragonfly to have arrived in the continent. The first European record was of an adult male collected at Oridda stream, Villacidro, Sardinia on 23 June 2003 (Holusa 2008). Despite extensive searches for this species in subsequent years, no other records came to light from Sardinia (Corso et al. 2012).

In continental Europe the species was first discovered in the Iberian peninsula, in the Manilva river near Malaga, in the southern province of Andalucia, Spain in May 2007 when 3 males were seen (Chelmick & Pickess 2008). The species subsequently quickly colonized the Spanish Mediterranean coastline as well as interior regions, reaching close to the Spanish-French border in 2016 when a male was seen at Rio Veral, Anso on 27 Jun and 3 males at a rocky stream in Natural Park Sierra de Guara on 30 Jun (Brouwer 2016). Miralles-Nunez et al. (2017) documented the rapid expansion and breeding of the species in Spain between 2007 and 2017. Asensio (2019) recorded the first sighting of the species in Sodupe, Biscay on 25 July 2019. The species was only recorded breeding for the first time in Portugal in 2017 when at least 4 mature males and a post teneral immature male were seen in the Algarve province (De Knijf 2018). In 2019 Albano Soares found the species on 4 streams around Mertola, and in August it was found further north at Penamacor, Castelo Brando district by Ricardo Andrade, while in August 2020 Albano Soares found it in three other places around Serpa (A. Soares, pers. com.). The species reached south-eastern France in June 2017 with 22 sightings, all of males, in five localities between 21 Jun

and 4 Sep, with individuals being present for several days in the same place. These sightings coincided with an unusual heatwave in Western Europe from 18-25 Jun (Paulette et al. 2017). A female photographed by Torben Sebros, and identified by various experts as belonging to this species, at barranco de Juano Sanchez, Rosa de la Arena, just north of Puerto del Rosario, Fuerteventura on 12 Jan 2020 (Torben Sebros, pers. com.) is the first record for the Canary Islands.

In the central Mediterranean basin *Trithemis kirbyi* re-appeared in 2012 when a male and female were seen on the Italian island of Linosa on 20 Oct (Corso et al. 2012). 3 males and 3 females were then found on the same island from 16-20 Oct 2013, and a male on the other Italian island of Lampedusa on 6 Nov 2014 (Corso et al. 2017). On 4 Nov 2019 another male was found on Linosa (Janni et al. 2020).



Fig. 1 – Male *Trithemis kirbyi* photographed at Imselliet Valley, Malta. 17 May 2020. First record for the Maltese Islands.

Observations and discussion

Since 2009 I have been carrying out daily Odonata counts at a number of sites in Malta during the flight season, mainly between March and November. Regularly monitored sites include Fiddien, Chadwick Lakes, Ta' Qali, Imselliet Vally down to Wied Rihana and Ghadira Nature Reserve. Other sites are visited on a less regular basis.

On 17 May 2020, during one such count at Imselliet Valley 35.55.00N, 14.23.29E, I photographed what at first I thought was a strange looking *Crocothemis erythraea* perched on a piece of thick string on the sloping side of a reservoir. To my surprise, the libellulid I had just photographed turned out to be a male *Trithemis kirbyi* (Fig. 1). The insect flew off soon after and although in the following few minutes I saw it interacting with other *Crocothemis erythraea* and *Trithemis annulata* present at the site, it soon disappeared and, despite searching for it in the following days, it was never seen again. The reservoir (Fig. 2) is surrounded by cultivated fields and water is pumped on several days of the week; however, although the water level fluctuates greatly during the year, it never dries up.

A second male was seen and photographed (Fig. 3) at Chadwick Lakes 35.53.24N; 14.23.27E on 13 Aug 2020. It was first seen twice in flight, flying close to the water surface but was lost as it flew over the mirror-like reflection of the water surface. I eventually located the insect perched on a stone close to the water's edge. The site where it was seen is also a reservoir used for irrigation but which, unlike Imselliet, used to dry up in late spring as it had badly silted up over the years. It was only in summer 2019 that it was re-excavated, and held some water throughout summer in 2020 (Fig. 4) and the area was largely bare, devoid of any vegetation. As in the case of the first sighting, despite searching for it during subsequent days, it was never seen again.

Trithemis kirbyi is not regarded as a migratory species but, as in the case of other African species, it has, in recent years, started to expand its range northwards, a phenomenon widely attributed to global warming. The first sighting occurred following a day of strong south-easterly winds while the second sighting was made during a period of calm weather conditions dominated by the African anti-cyclone over the central Mediterranean. While in the case of the second sighting the weather conditions suggest



Fig. 2 – The reservoir at Imselliet Valley where the first *Trithemis kirbyi* in Malta was sighted.



Fig. 3 – Male *Trithemis kirbyi* photographed at Chadwick Lakes, Malta. 13 Aug 2020. Second record for the Maltese Islands.



Fig. 4 – The reservoir at Chadwick Lakes where the second *Trithemis kirbyi* in Malta was sighted.

that the specimen possibly originated from Tunisia, it is difficult to postulate the origin of the first one. The wind currents would point to a north African origin to the east of the Maltese Islands. However, this is highly unlikely given the fact that there are only single records of the species in both Libya and Egypt (Kalkman & Prunier 2015).

Acknowledgements – I would like to express my sincere thanks to Albano Soares for updating me on his and Ricardo Andrade's recent sightings of *Trithemis kirbyi* in Portugal, and to Torben Serbo who provided details about his discovery of a female *T. kirbyi* in the Canary Islands.

References

- Asensio R. 2019. Primera cita de *Trithemis kirbyi*, Selys 1891 (Odonata: Libellulidae) de Bizkaia (País Vasco, España). Boletín de la Sociedad Entomológica Aragonesa, 65: 221–114.
- Brouwer P. 2016. *Trithemis kirbyi* near the Spanish-French border. Boletín Rola, 8: 5–8.
- Chelmick D.G., Pickess B.P. 2008. *Trithemis kirbyi* Selys in southern Spain (Anisoptera: Libellulidae). Notulae odonologicae, 7 (1): 4–5.
- Corso A., Janni O., Pavesi M., Sammut M., Sciberras A., Viganò M. 2012. Annotated checklist of the dragonflies (Insecta, Odonata) of the islands of the Sicilian Channel, including the first record of *Sympetrum sinaiticum* Dumont, 1977 and *Pantala flavescens* (Fabricius, 1798) for Italy. Biodiversity Journal, 3: 459–478.
- Corso A., Janni O., Pavesi M., Viganò M. 2017. Update to the status of *Pantala flavescens* (Fabricius, 1798) and *Trithemis kirbyi* Selys, 1891 for Italy and Central Mediterranean basin (Odonata Libellulidae). Biodiversity Journal, 8 (1): 33–38.
- De Knijf G. 2018. First evidence of reproduction of *Trithemis kirbyi* Selys, 1891 (Odonata: Libellulidae) in Portugal. Boletín Rola, 11: 19–24.
- Holusa O. 2008. *Trithemis kirbyi* auf Sardinien: Erstachweis für Europa (Odonata: Libellulidae). Libellula, 27(1/2): 111–115.
- Janni O., Viganò M., Corso A. 2020. First record of *Diplacodes lefebvrei* (Rambur, 1842) for Sicily and additional record of *Trithemis kirbyi* Selys, 1891 (Odonata Libellulidae). Biodiversity Journal, 11 (1): 65–68.
- Kalkman V.J., Prunier F. 2015. *Trithemis kirbyi* Selys, 1891, pp. 319–321. In: Boudot J.-P., Kalkman V.J. (eds), Atlas of the European dragonflies and damselflies. KNNV publishing, the Netherlands.
- Miralles-Nunez A., Obregon-Romero R., Mezquita-Aranburu I. 2017. Nuevos registros sobre la distribución y reproducción de *Trithemis kirbyi* Selys, 1891 (Odonata: Libellulidae) en la Península Iberica. Boletín de la Sociedad Entomológica Aragonesa, 61: 241–244.

