

## **A brief observation of egg laying in *Lindenia tetraphylla* (Odonata: Gomphidae) on Kriti (Crete), Greece**

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**Abstract.** Brief sightings of an ovipositing *Lindenia tetraphylla* above submerged mats of hydrophytes on a lake shore are reported.

**Key words.** Odonata, Gomphidae, *Lindenia tetraphylla*, egg deposition, Crete, Greece

### **Introduction**

*Lindenia tetraphylla* (Vander Linden, 1825) is an eremic gomphid extending from Central Asia and Pakistan to parts of the Arabian Peninsula and the Western Mediterranean Basin. It is a well-known migrant species (SCHNEIDER 1981; SCHRÖTER 2010, 2011), which in the Eastern Mediterranean Basin recently became established in Crete, Greece (BROCHARD & VAN DER PLOEG 2013), benefiting from changes in habitats and colonizing new large to medium-sized man-made reservoirs. Although the range, distribution, ecology, and phenology of the species is generally well understood (SCHORR et al. 1998; BOUDOT et al. 2009; BROCHARD & VAN DER PLOEG 2013), some aspects of its behaviour are less well known. DUMONT (1977) and WILDERMUTH & MARTENS (2014) discussed its territorial behaviour and WILDERMUTH (2014) emphasized the unusual way the species perches. WILDERMUTH & MARTENS (2014) reported oviposition as a succession of rhythmic movements towards the water surface in gaps in reed belts along lake shores. However no more information on egg laying seems to be available, so any different behaviour deserves to be reported for a better understanding of the species.

### **Study site and method**

On 31-vii-2014, I found a new large population of *Lindenia tetraphylla* during a visit to a recent (2009) man-made lake, the so-called »Potamon Dam« or »Amari reservoir« near the village of Voleones, 25 km south of Rethimno. Oviposition behaviour was observed and photographed.

### **Results**

The newly discovered population at »Amari reservoir« is the sixth known from the island. The species was found all around the lake and a female came to oviposit twice at close range, allowing some behavioural notes. While a male was already perched on interlaced dead branches above the water near the bank over mats of submerged

*Ceratophyllum* sp., a female arrived suddenly and remained under this apparent shelter, hovering steadily with a vibratory flight for several spells of ca 15 seconds each (Fig. 1). These spells were abruptly interrupted by a sudden unique and strong projecting movement of the whole body towards the water, during which the female was believed to throw one or several eggs among the submerged hydrophytes. Examining the series of pictures which were taken, no egg mass accumulated at the underside of the last abdominal segments as in e.g. *Gomphus simillimus*, so eggs were presumably cast in a dispersed manner into the water. This sequence was repeated thrice at each of the two visits, and at the first one the male tried to grasp the female, which curved its abdomen downwards, escaped and disappeared before returning about five minutes later.



**Fig. 1.** Female of *Lindenia tetraphylla* ovipositing under a shelter of dead branches and over mats of *Ceratophyllum* near lake side. Overview (top); vibrating stationary flight (bottom). »Amari reservoir« near the village of Voleones, Kríti (Crete), Greece. (31-vii-2014). Photos: JPB



I would have been happy to remain at this interesting place longer. However local people came and warned me I should no longer stay near the water, as a crocodile had been illegally released into the lake, as evidenced by photographs and a video film taken from a drone. I understood instantaneously why I found previously traps with dead chicken and video cameras in some remote parts of the lake. So, *Lindenia* is well guarded!

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Received 20<sup>th</sup> August 2014