

## ***Lindenia tetraphylla* – new for the island of Kérkira (Corfu), Greece (Odonata: Gomphidae)**

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**Abstract.** *Lindenia tetraphylla* is reported from Kérkira (Corfu), Greece, for the first time on the basis of photographic records. On the 28-vi-2014 five adult males were found by the shore of an artificial water reservoir. Given the known habitat preferences of *L. tetraphylla* and the ecological conditions of the reservoir it is supposed that the species may be indigenous on the island.

Key words. Odonata, Gomphidae, *Lindenia tetraphylla*, Kérkira (Corfu), Greece

### **Introduction**

The Bladetail *Lindenia tetraphylla* is a large and spectacular gomphid species distributed along the Paneremian desert belt from eastern Kazakhstan and Kyrgyzstan in the east across Central and Western Asia, the Arabian Peninsula, the Caucasus region, the Levant and Turkey to the western Mediterranean (SCHNEIDER 1986, 1988; BORISOV & HARITONOV 2008; BOUDOT et al. 2009: 122; SCHRÖTER 2010a, 2010b; SKVORTZOV & SNEGOVAYA 2014). *Lindenia tetraphylla* is highly nomadic and a strong flier migrating over long distances (FRASER 1936; SCHNEIDER 1981; SCHRÖTER 2011: 212). Larvae of *L. tetraphylla* generally tolerate a wide range of salinity and the species is well able to also colonize intermittent or temporary water bodies devoid of any vegetation. These characteristics are considered to be adaptations to the ecological conditions prevailing in the main range of this Iranoeremian faunal element within the arid and semi-arid parts of Central Asia and the Arabian Peninsula (DE LATTIN 1967: 396; WATERSTON 1980; LOHMANN 1981; SCHNEIDER 1988).

However, in the western part of its range *L. tetraphylla* seems to prefer large, stagnant water-bodies, mainly lakes and sluggish sections of rivers with extensive reed-beds (SCHORR et al. 1998; SUHLING & MÜLLER 1996: 190). In Europe *L. tetraphylla* is generally rare and relatively few strong permanent populations are known, those being largely concentrated along the southern Adriatic coast and Greece with further viable populations in adjacent Turkey (KALKMAN 2006; BOUDOT et al. 2009: 122; LOPAU 2010: 80).

### **Study site and method**

Data were obtained at a large artificial water reservoir in the southern part of Kérkira 1.3 km southwest of Kavos (39°22'23.70"N, 20°6'20.02"E). This site cor-

responds to the locality »loc. 12« as described and illustrated by BROCHARD & VAN DER PLOEG (2013).

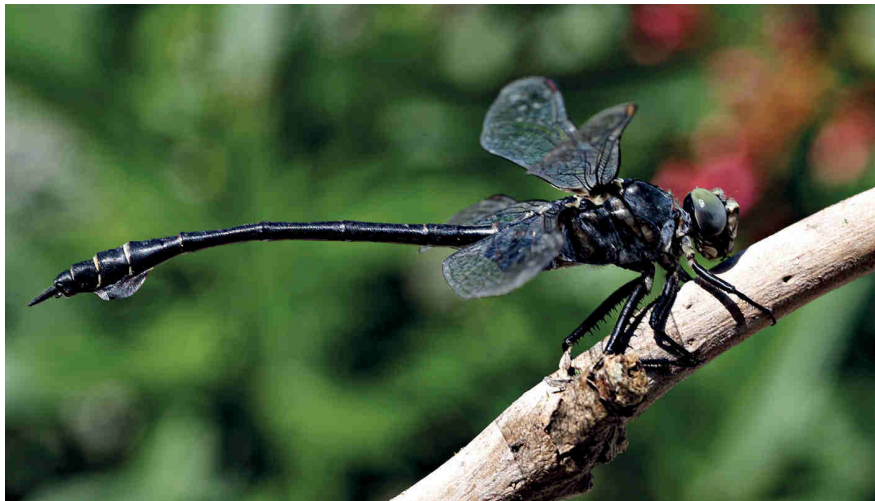
The water of the reservoir was clear with virtually no aquatic vegetation and the shore was covered with stones and somewhat overgrown with bramble (*Rubus sanctus* s.l.), common reed (*Phragmites australis*) and giant reed (*Arundo donax*). The reservoir was surrounded by olive groves and vegetable plots, the latter utilising the water for irrigation. Other Odonata species found at the locality on the same date were *Platycnemis pennipes* ssp. *nitidula*, *Anax parthenope*, *Crocothemis erythraea*, *Orthetrum cancellatum*, *Selysiotthemis nigra*, and *Trithemis annulata*. Among other fauna Balkan terrapins (*Mauremys rivulata*), Epirus water frog (*Pelophylax epeiroticus*), marsh frog (*P. ridibundus* s.l.), domesticated goldfish (*Carassius auratus*), and eastern mosquitofish (*Gambusia holbrooki*) were all common.

### Results

On 28-vi-2014 a total of five males of *Lindenia tetraphylla* was observed and photographed (Fig. 1). All individuals were uniformly black, lacking pale markings and were observed resting on the ground or on the reeds and darting across the water of the reservoir.

### Discussion

Our observations of *Lindenia tetraphylla* represent the first record of this species, increasing the total number of Odonata species known from Kérkira to at least 43.



**Fig. 1.** Male of *Lindenia tetraphylla*, southern part of Kérkira island (Corfu), Greece (28-vi-2014). Photo: MS

This is the second highest total for all Greek islands after Lésvos (cf. SUTTON 2009; LOPAU 2010: 13; BROCHARD & VAN DER PLOEG 2013). All five individuals were overall completely dark with beginning signs of pruinosity (Fig. 1). This melanistic tendency in *L. tetraphylla* is explained as either related to age or due to environmental influences (DUMONT 1991; SUHLING & MÜLLER 1996: 189; WILDERMUTH & MARTENS 2014: 415).

As a strong flier with migratory behaviour single individuals of *L. tetraphylla* have been recorded on Greek Islands without suitable breeding habitats as e.g. Thásos (LOPAU 2010). Such individuals probably originate from one of the strong source populations in the wider surroundings area as e.g. Volvi Lake (cf. LOPAU 2010: 80; WILDERMUTH 2014). As a result isolated bridging populations which might exist at least for several consecutive years also regularly become established (cf. KUNZ & KUNZ 2001; BOUDOT et al. 2009: 122). Rather untypically for a gomphid, *L. tetraphylla* seems to easily colonise isolated islands far from land such as Sardinia (UTZERI et al. 2006; HARDERSEN & LEO 2011) and Kriti (Crete), where only recently indigenous populations of the species have been found (BROCHARD & VAN DER PLOEG 2013; BOUDOT 2014). Although most of the strong European core populations breed in habitats with more or less well established aquatic vegetation and reedy shores, *L. tetraphylla* in Europe also regularly colonises barrage lakes and man-made reservoirs with concrete or stony banks devoid of both submerged vegetation and helophytes (cf. KALKMAN & VAN PELT 2006: 157) which also applies to the reservoir described here. Further evidence suggests that *L. tetraphylla* at present generally benefits from the increasing number of such man-made reservoirs. Thus, observations from Kérkira presented here are in agreement with a recent series of corresponding findings in the Aegean (cf. BROCHARD & VAN DER PLOEG 2013; BOUDOT 2014). Moreover, LOPAU (2010: 80) assumed that the species is generally overlooked in Greece and might be found at almost every larger lake. To ascertain whether the observed individuals of *L. tetraphylla* were part of a permanent breeding population or just migrating through the area further studies have to be conducted.

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