

**SOME NEW RECORDS OF *LINDENIA TETRAPHYLLA* (VANDER LINDEN) IN ITALY (ANISOPTERA: GOMPHIDAE)**

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**Abstract** – A new site for *L. tetraphylla* from Sardinia and 4 from Tuscany are put on record. Some of these apparently harbour reproductive populations. *Selysiotthemis nigra* is for the first time recorded from Tuscany.

**Introduction**

*Lindenia tetraphylla* is a Centralasiatic-Mediterranean species (sensu VIGNA TAGLIANTI et al., 1992) that is widely scattered in the western Mediterranean, where isolated populations on the Tyrrhenian coast of Italy, the Spanish eastern coast and the Algerian coast probably represent a remnant of an ancient westward expansion of its range (LOHMANN, 1981; SCHORR et al., 1998). Detailed distribution maps are provided by ASKEW (1988) and SCHORR et al. (1998). In the literature, four sites were reported from Tuscany (SELYS DE LONGCHAMPS, 1843; BENTIVOGLIO, 1910, 1913; GALLETTI, 1978; cf. also TERZANI, 2002), one from Lazio (CONSIGLIO, 1953; cf. also D'ANTONIO, 1989), three from Campania (VANDER LINDEN, 1825; D'ANTONIO, 1987; 1995) and three from Sardinia (CASTELLANI, 1951; GALLETTI, 1978; BUCCIARELLI

et al., 1983). Herewith we report on a further Sardinian site and on four sites in Tuscany.

**The sites and material examined**

**Sardinia**

– Santa Giusta (Oristano), Stagno di Santa Giusta. Two males collected by C. Fadda on 30-VI-2002 and 8-VI-2003 respectively, which are preserved at the Dipartimento di Zoologia e Antropologia Biologica, University of Sassari. Two further individuals, of unidentified sex, were observed on 21-VI-03 (FADDA, 2004). The site is located near the industrial estate of Oristano, along the northeastern shore of the lake, which is bordered by extensive reed beds (*Phragmites* sp.). According to FADDA (2004), "In the autumn of 2002 works proceeded to construct a railway line to connect the industrial estate and the port of Oristano with the city itself. Access to the site was blocked and large parts of the reed beds were destroyed. Currently the works have been interrupted".

**Tuscany**

– Lago dell'Accesa (Massa). This is a lake with a surface area of about 14 ha (MINNITI, 1973). Some twenty individuals were

observed and photographed by FP on 4-VII-2005. A list of the dragonfly species present at this lake is included in MINNITI (1973).

- Lucignano (Arezzo), Lago del Calcione. This is a relatively large basin, created by damming the river Foenna, which is used for angling and as a drinking water reservoir. Access to the lake's shore is precluded by an iron fence, but in some places it is possible to reach the water's edge. One individual was observed by FP on 14-VII-2005.
- Rapolano Terme (Siena). The site is a small lake (about 2 ha) near the castle of Modanella, about 2 km South of the previous site. A few individuals, including a mating pair, were observed and photographed here by FP on 14-VII-2005.
- Sovicille (Siena), hamlet of Orgia, Lago della Rancia. This is an old gravel pit near the river Merse, which has been disused since about 30 years after flooding and has naturalised spontaneously. The lake, which is not included in all the maps of the area, is located on private grounds and has a surface area of about 5 ha. It is inhabited by *Lepomis globosus* and other fish species. Numerous individuals of *L. tetrphylla* were observed and photographed here between 23 June and 26 August 2005. Their activities included flight, mating (observed six times) and oviposition (observed twice). On 27 July an ovipositing female fell prey to *L. globosus* and the remains of a male were found hanging from the vegetation by a few silk threads, which suggests predation by a spider (probably *Argiope* sp., present at the site). Together with *L. tetrphylla* the following 29 species of Odonata have been recorded (identified and/or photographed in the field), some of which probably originated from the nearby river Merse: *Calopteryx splendens*, *C. haemorrhoidalis*, *Chalcolestes viridis*, *Lestes barbarus*, *Lestes virens*, *Platycnemis pennipes*, *Erythromma lindenii*, *E. viridulum*, *Enallagma cyathigerum*, *Ischnura elegans*, *I. pumilio*, *Ceragrion tenellum*, *Aeshna mixta*, *Anax imperator*, *A. parthenope*, *Gomphus vulgatissimus*, *Onychogomphus forcipatus*, *Oxygastra curtisii*, *Libellula fulva*, *Orthetrum cancellatum*, *O. coerulescens*, *O. brunneum*,

*Crocotthemis erythraea*, *Sympetrum striolatum*, *S. meridionale*, *S. fonscolombeii*, *S. sanguineum*, *Tritthemis annulata* and *Selysiothemis nigra*.

Some photographs of *L. tetrphylla* from the above sites are on display at [www.dragonflypix.com](http://www.dragonflypix.com).

#### Comments

*Lindenia tetrphylla* is included in the lists of the Bern Convention, App. 2, and of the Habitats Directive, Apps 2 and 4. What makes the present report interesting is the rarity and the narrow localisation of this species in Italy, and the fact that nearly all previous Italian observations predate 1983 (BUCCIARELLI et al, 1983). The most recent observations are by D'ANTONIO (1995) for Lacedonia (Avellino) and by TERZANI (2002), who confirms the survival of ancient populations in Tuscany. Moreover, most of the past reports were of single individuals.

The abundance of individuals at some sites (Lago dell'Accesa, Lago della Rancia), the recording of reproductive behaviour (Lago di Modanella, Lago della Rancia) and the observation of individuals in successive years (Stagno di Santa Giusta) suggest that at least some of the observed populations may have established firmly. The fact that these populations were so far unknown, despite accurate research in Sardinia by BUCCIARELLI et al. (1983) and in Tuscany by MINNITI (1973 – Lago dell'Accesa) and TERZANI (2002), suggests that the colonisation of these new sites may be rather recent.

As to *Selysiothemis nigra*, the Lago della Rancia (Sovicille, Siena) is the only Tuscan site known for this species to date.

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