

Short scientific noteSubmitted: February 1st, 2016 - Accepted: May 20th, 2016 - Published: June 30th, 2016**New records of *Coenagrion ornatum* in Italy
(Odonata: Coenagrionidae)**

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Abstract

Coenagrion ornatum (Sélys, 1850) is a damselfly ranging from northwestern Europe to southwestern Asia. It is highly local, and north-western populations are experiencing a steep decline. In Europe, *Coenagrion ornatum* is a species of conservation interest and is listed as Near Threatened due to habitat loss; it is nearly extinct in Italy. We report the finding of 4 male *C. ornatum* on 3 June 2005 in Apulia, southeastern Italy. This is the only recent record for Italy, and highlights the need for further research on this species in the country.

Key words: *Coenagrion ornatum*, *Coenagrionidae*, *Odonata*, *Apulia*, *Italy*.

The Ornate Bluet (*Coenagrion ornatum*) is a coenagrionid dragonfly ranging from west-central Europe through eastern and southeastern Europe to southwestern Asia, with the easternmost records from Iran and south-west Turkmenistan (Boudot & Kulijer 2015). It is rare and local in western and central Europe due to major population declines in the past; additionally, these populations are highly disjunct, probably due to anthropic factors, habitat loss foremost among them (Kalkman et al. 2010; Riservato et al. 2009). *Coenagrion ornatum* is a specialized species confined to seepages, spring waters with a thin water film and small sunny brooks, streamlets and ditches with organic mud and dense hygrophilous herbaceous vegetation (Boudot 2014).

For these reasons, the Ornate Bluet is listed as Near Threatened in Europe and in the Mediterranean basin (Kalkman et al. 2010; Riservato et al. 2009), and is included in Annex II of the Habitats Directive. The status of *C. ornatum* in Italy (Fig. 1) is unknown due to the lack of any data from the 21st century (Nielsen & Conci 1951, Fiorenza et al. 2013; Riservato et al. 2014a; Riservato et al. 2014b).

Four male *C. ornatum* were observed by the authors on 3 June, 2015 along the Gravina stream (Gravina in Puglia, province of Bari, Apulia, 330 m), about 80 km southwest of Cerignola (province of Foggia, Apulia, 120 m), the only other known locality for this species in southern Italy (Nielsen & Conci 1951) (Fig. 1).

The site (Fig. 2) is a sunny, partly regulated stream with modest current and shallow waters (average depth less than 50 cm), an average width of 1.5 meters, and extensive riparian vegetation dominated by grasses and small shrubs, especially rushes. The stream is located on a vast

karst plateau (Alta Murgia) that is also a Natura 2000 site (cod. IT9120007); nevertheless, the discovery site is located in an agricultural, suburban area poorly investigated by odonatologists.

In order to arrive at a correct identification, one specimen was collected and is held in the private collection of the senior author (F. Mastropasqua). In addition to *C. ornatum*, the following species of Odonata were found: *Calopteryx haemorrhoidalis* (Vander Linden, 1825), *Calopteryx splendens* (Harris, 1780), *Platycnemis pennipes* (Pallas, 1771), *Ischnura elegans* (Vander Linden, 1820), *Ischnura pumilio* (Charpentier, 1825), *Coenagrion caerulelescens* (Fonscolombe, 1838), *Coenagrion puella* (Linnaeus, 1758), *Erythromma lindenii* (Sélys-Longchamps, 1840), *Ceriagrion tenellum* (Villers, 1789), *Anax imperator* Leach, 1815, *Libellula depressa* Linnaeus, 1758, *Libellula fulva* Müller, 1764, *Orthetrum brunneum* (Fonscolombe, 1837) and *Crocothemis erythraea* (Brullé, 1832). During a second survey on 8 July, 2015 we found *Onychogomphus forcipatus* (Linnaeus, 1758), but did not find any additional individuals of *C. ornatum*.

The conservation status of *C. ornatum* in Italy is unknown. The new record of *C. ornatum* confirms the continued existence of this species in Italy, 76 years after the last sighting (Conci & Nielsen 1956; Riservato et al. 2014b). The species has limited ability to disperse (Boudot 2014) and therefore it seems likely that *C. ornatum* has been present all along in Apulia, without ever having been observed. This might be true as well for northeastern Italy, where *C. ornatum* has been collected in the past, but has not been found in recent years (Riservato et al. 2014b).

In any event, this is certainly a rare and local species in Italy, where it is threatened with extinction, all the more



Fig. 1 – *Coenagrion ornatum* in Italy: **triangles**, data ante 1930; **circles**, data from 1930 to 1999; **square**, data post 2000 (from Riservato et al. 2014b; modified).



Fig. 2 – Habitat where *Coenagrion ornatum* was found in Apulia, Gravina di Puglia, Bari Province (photo by F. Mastropasqua).

reason to pursue additional research on this poorly known species, which is able to live in canals and man-made ditches in farmland environments (Boudot 2014).

Since the site where *C. ornatum* was found is part of a Site of Community Importance (SCI; cod IT9120007), it is important to update the Standard Data Form for the SCI itself, in order to make site managers aware of the presence of this rare, protected species and cognizant of the importance to improve our knowledge of its population status.

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