Avocetta 37: 63-66 (2013)

First breeding attempt of spectacled warbler *Sylvia conspicillata* in the Italian Alps

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Abstract – On 30.06.2012 the author found a territorial male spectacled warbler *Sylvia conspicillata* at Collombardo (1860-1900 m a.s.l., Graie Alps, Piedmont, NW Italy). This bird was regularly observed singing till 21.07.2012 and once seen carrying nest material into a bush. No others individuals were observed in the area. The site is an abandoned pasture characterized by a low shrub layer (50-60 cm) of species belonging to *Rhododendro-Vaccinion* alliance and by a taller layer (2 m) dominated by *Alnus viridis*. The area has a NE exposure and lacks of xerothermic features. Mean July temperature is 15.5 ± 0.3 °C, much lower than the 23 ºC generally considered as the northern thermal limit for the spectacled warbler. In Italy this species breeds in Mediterranean area up to the latitude of Bologna and is very rarely observed further north: this note reports the first breeding attempt ever observed in the Italian Alps.

Key-words: abandoned pasture, Graie Alps, out-of-range nesting, Piedmont, *Sylviidae*.

Spectacled warbler *Sylvia conspicillata* is a polytypic species with a mediterranean-macaronesian chorology. Breeding usually occurs between July isotherms of 23 °C and 32 °C (Cramp 1992).

The nominal subspecies *conspicillata* breeds discontinuously around Mediterranean Sea and its islands, mainly from Iberia to southern France, central and southern Italy, Sardinia, Sicily, Corsica and Malta (Cramp 1992, Isenmann & Sultana 1997, Shirihai *et al*. 2001). In North Africa is recorded as breeder from Mauritania (where it was recently found, Schmaljohann & Salewsky 2005) to North-West Libya (Massa 1999). Isolated populations occur sparse in east Mediterranean basin from Sinai to South-West Syria, Cyprus and locally Turkey (Shirihai *et al*. 2001, Welch & Welch 2004, Gul & Atahan 2011). Although it may reach Mauritania and Niger, it generally behaves as short-distance migrant. Populations from mainland Europe, Corsica and Sardinia leave their breeding sites in winter, while southern Spain, Malta, Sicily, and Cyprus populations are partially resident (Shirihai *et al*. 2001).

In Italy is widely distributed up to Abruzzo and southern Tuscany (Brichetti & Fracasso 2010). Distribution is however discontinuous and Guerrieri & Santucci (2001) suggested that in central Italy its range and population are still widely underestimated. Several isolated populations or single pairs have been reported north of usual breeding range up to Marche (Manzi & Perna 1990, Magrini & Perna 2002, Laurenti & Paci 2005) and Bologna Apennines (Gellini & Montevecchi 1986, Bon 2002).

Spectacled warbler was rarely recorded north of its usual breeding range also in various European countries, with the most northern cases registered in United Kingdom and Denmark (Shirihai *et al*. 2001). There are also some evidences of nesting or breeding attempts north of the usual range in Spain, France and Switzerland (Isenmann & Sultana 1997, Aymi & Gargallo 2006, Gilot & Rousseau 2008). Causes of these out-of-range breeding cases are not still well understood, although some authors explained them considering the ecletism of the species, climate warming and accidental overshooting effects (Maumary *et al*. 1990, Dubois & Crouzier 1999, Werner *et al*. 2005, Guerrieri & Santucci 2001).

This note describes the first breeding attempt of this species ever observed in the Italian Alps.

On 30.06.2012 I found a male spectacled warbler singing at Collombardo (Lemie-Condove, Torino, Piedmont), located on Susa-Lanzo watershed (7.31° E; 45.19° N) (Fig. 1). It was highly territorial and singed constantly, moving on an estimated territory of 2.8 ha. It performed also several song-flights. On 07.07 the male was observed carrying grasses and other thin material into a bush, strongly suggesting nest-building or nest-repairing activity (video documentation at: http://www.flickr.com/photos/promotoalato/7521197554/). Anyway, no proofs giving a definitive evidence of breeding were found (*e.g*. active nest with chicks or eggs). This individual was observed during three further inspections till 21.07: in this period singing activity and song-flights decreased considerably, no other activity near the likely nest site was detected and no female or juveniles were observed. Two additional visits on 30.07 and 31.07 produced no other observations of spectacled warblers.

The site is characterized by a gentle slope (15° inclina-

tion) with a north-east exposure between altitudes of 1860-1900 m. a.s.l. The area is an abandoned graminaceous pasture invaded by a plant community belonging to *Rhododendro-Vaccinion* alliance (Br.-Bl.1926): dominant *Rhododendron ferrugineum*, which grows in low bushes 50-60 cm high, associated with *Juniperus communis nana*, *Vaccinum* sp., *Rubus idaeus*. Other herbaceous plants present at the site are *Polygonum bistorta* and *Veratrum album*. Near the top of the slope there is an area of rockslide with bare soil colonized by *Alnus viridis*, *Sorbus aucuparia* and a single *Acer pseudoplatanus* reaching 2 m in height (Fig. 2).

Data for June 2012 from Prarotto meteorological station (located at 7 km from Collombardo and 440 m a.s.l. below) show that mean monthly temperature was 14.8 °C (min.: 6.4 °C; max.: 22.3 °C) and cumulative monthly precipitation was 51.2 mm. July 2012 data were not available, but mean data of July 1998-2011 show a mean monthly temperature of 15.5±0.3 °C (min.: 7.6±0.4; max.: 22.6±0.4) and cumulative monthly precipitation 55.8±9.9 mm (data derived from: http://www.arpa.piemonte.it/banca-dati-meteorologica).

The decreasing of singing activity and song-flights observed during the breeding season is a well-known spectacled warbler's feature (Guerrieri & Santucci 1996, Guerrieri *et al*. 1999) as is the fact that male start to build a sketchy nest which is signaled to female with the song flights. If the male fails to attract a female, the sketchy nest is abandoned and a new one is built. In marginal areas lone males could build up to 4-5 sketchy nests and still fail in attracting any females (Sultana & Gauci 1982, Guerrieri & Santucci 1996, Guerrieri *et al*. 1998): this explains why, out of the usual range of the species, presence of unpaired male is not so infrequent (Guelin 1997, Dubois & Crouzier 1999, Lovaty 1990). This kind of situation could well be the case for the male of Collombardo too; it is very likely that breeding must be considered just an attempt.

Dubois & Crouzier (1999) hypothesized that mixed-pairing with other *Sylvia* species can occur, as suggested for a lone male observed in Cantal (France), that could be paired whit a common whitethroat *Sylvia communis* (or behaved as helper at its nest). At Collombardo two related species are present as breeders (lesser whitethroat *Sylvia curruca* and garden warbler *Sylvia borin)*, but nothing was observed sustaining the hypothesis of a possible mixed-pair.

Active singing and nest building through July were extremely late considering usual breeding phenology of spectacled warbler (*e.g*. in central Italy singing and nest building take place mainly between April and May; Guerrieri & Santucci 1996), however, discrepancies from the usual Mediterranean phenology may be due to the alpine

Figure 1. Male spectacled warbler at Collombardo (Lemie-Condove, Torino, Piedmont), 10th July 2012.

Figure 2. Alpine breeding site of spectacled warbler (Collombardo, 1860-1900 m. a.s.l., Italy). Vegetation is characterized by a low *Rhododendron* shrubland invading an abandoned pasture with discontinuous bare soil patch.

colder environment. At similar altitude Roy (2001) and Werner *et al*. (2006) observed nest building in the middle of June. The fact that the male of Collombardo was observed in July taking nest material (probably for a sketchy nest) is possibly a further clue that it was an unpaired male, because this behaviour is expected to occur much earlier in any case.

In the Italian context, this record is quite outstanding for its location: there are no other breeding evidences north of Bologna Apennines (340 km and 0.77 degrees south from Collombardo) and even simple known observations out of the breeding period north of Emilia-Romagna are only four, two in Piedmont and two in Lombardy (Bri-

chetti & Fracasso 2010, G.P.S.O. 2011, M. Brambilla *pers. obs.*). The nearest Italian breeding sites are in Tuscany islands (315 km from Collombardo) which are a disjointed distribution area itself (Brichetti & Fracasso 2010). However, the nearest regular nesting sites are in France (Alpes-Maritimes, 150 km from Collombardo; Alpes-de-Haute-Provence, 160 km from Collombardo; Gilot & Rousseau 2008); thus, we may likely suppose a French origin of the male described in this note. This hypothesis is supported by the distribution of a closely related species, subalpine warbler *Sylvia cantillans*, which is commonly distributed in France (Dubois *et al*. 2008), while in Piedmont is only found in few sites in the western part of the Region, in particular along the same valley where Collombardo is located (Aimassi & Reteuna 2007, *pers. obs.*). Conversely, in the rest of the region is found the recently splitted Moltoni's warbler *Sylvia subalpina*, which is found in Italy from the Po river up to Tuscany and Sardinia (Brambilla *et al*. 2006, 2008).

Although this breeding attempt represents the first case documented in the Italian Alps, spectacled warbler had already bred in the Swiss part of the chain: the first time in 1989 at Loèche (7.69° E; 46.31° N) in Rhône Valley (Maumary *et al*. 1990), then in the same area in 2008 (Schweizer *et al*. 2009) and maybe also in 2011 (Posse 2012). In the same region it also successfully bred near Zermatt (7.74° E; 46.00° N) in 2005 (Werner *et al*. 2006), while a male was heard singing for some days near Greich (7.99° E; 46.38° N) in 2011 (Posse 2012). These latter sites are less than 15 km from Piedmont border and respectively 95 km and 140 km from Collombardo. In France there are no observations from the alpine biogeographical region (EEA 2002), but there are some evidences of isolated breeding or breeding attempts in mountain areas of Massif central, out of the usual range (Guelin 1997, Dubois & Crouzier 1999, Lovaty 1990, 2006, 2008, Brugiere 2008). Considering the above mentioned breeding and breeding attempts, it is not unexpected that Piedmont individual chose a mountain site; this could be due to the growing human pressure on traditional lowland-habitats (Gilot & Rousseau 2008), while in mountainous areas pasture abandonment is creating more suitable habitats (Lovaty 2008). More outstanding is the fact that the site has a north-east exposure and generally "cold" characteristic: *Rhododendro-Vaccinion* is actually considered a meshophilous (and not xerophilous) alliance (Spampinato *et al*. 2009) and presence of *Alnus viridis* -that require high water availability- is an indicator of long snow persistence (Richard 1990). Breeding attempt in a so unusual habitat for the species was never observed in any other out-of-range breeding cases (see references above): other mountain nesting or breeding attempts occurred in sites colonized by xerophilous vegetation and generally with a south or south-east exposition and a good insolation. This apparent unsuitability of the habitat chosen by this male may explain why this breeding attempt was probably unsuccessful.

The altitude of Collombardo (1900 m a.s.l.) is also considerable because it is higher than French maximum nesting altitude known for spectacled warbler (1680 m a.s.l., reached on Pyrénées-Orientales; Roy 2001) and only slightly lower than Italian maximum, but this reached more than 1000 km south on the fully-Mediterranean environment of Mount Etna in Sicily (2000-2200 m a.s.l.; Ientile & Massa 2008). The higher nesting observed in the Swiss Alps occurred almost at the same altitude of Collombardo (2075 m a.s.l.), but the area had south-east exposition (Werner *et al*. 2006). In the southern part of its range (Spain, Morocco and Tenerife) it reaches the highest altitudes known for the species of 2400-2600 m a.s.l. (Shirihai *et al*. 2001).

Acknowledgements – P. Marotto helped with field work. G. Alessandria, M. Brambilla, F. Carpegna, G. Boano, G. Bogliani, M. Bonora, M. Chialva, J.P. Dubois, M. Duquet, R. Garcin, F. Gilot, M. Pettavino, E. Roy, R. Tinarelli, M. Spini and P.G. Chiadò Fiorio (Museo Regionale di Scienze Naturali, Torino) provided useful information and literature. M. Morganti revised previous drafts and suggested improvements. The first observation was made during MITO 2000 survey financed by L.I.P.U. and Ministero delle Politiche Agricole, Alimentari e Forestali.

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