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Observation of vocal mimicry of great reed warbler *Acrocephalus arundinaceus* imitating nightingale *Luscinia megarhynchos* song

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Abstract – Description of a great reed warbler *Acrocephalus arundinaceus* imitating the nightingale *Luscinia megarhynchos* song. An individual was heard and seen several times during June 2007 and May-June 2010 in a wetland area in Cuneo Province with a song similar to the nightingale song. This phenomenon has not been described before for this species yet.

Riassunto – Viene descritto un caso di mimesi vocale da parte di cannareccione *Acrocephalus arundinaceus* imitante il canto di usignolo *Luscinia megarhynchos*. Un individuo è stato udito e osservato in più occasioni nel giugno 2007 e nel maggio-giugno 2010 in un'area palustre in Provincia di Cuneo con un canto avente caratteristiche tipiche del canto di usignolo. Tale fenomeno risulta non ancora descritto per la specie.

We here describe a series of observations occurred within the protected area of "la Madonnina" (Special Zone of Protection no. IT1160059 7°41'57.21"E- 44°29'48.63"N), a wetland area of 22 hectares located along the River Stura di Demonte at Sant'Albano Stura (Cuneo, Piedmont, Italy).

On 13 June 2007, we noticed a great reed warbler *Acrocephalus arundinaceus* that uttered an imitation of the song of the nightingale *Luscinia megarhynchos*. Every year, this area contains 1-3 territorial and breeding great reed warblers and 4-5 territorial nightingale males (Beraudo P.L. and Caula B. pers. obs.). We heard the same song imitation throughout the breeding season (from June to August). We suspected that it was the same individual as it was always found in a small isolated patch of reedbeds of *Typha latifolia*. The imitation included a few "*karra-karra*" notes typical of the great reed warbler song (Kennerley and Pearson 2010) plus an articulated melodic note phrasing that, to human ear, was similar to the nightingales song.

Three years later, still in the same area, on 30 May 2010, we observed a great reed warbler performing again the same song imitation. Also this time, the song was composed of a few "*karra-karra*" typical of this species plus a series of warbling notes similar to the nightingale song. We heard the song imitation until 12 June, after which the typical song of the great reed warbler prevailed with randomly alternating a few typical notes of the nightingale. In one instance, on 30 May 2010, we recorded the song imitation from a distance of about 60 meters with a directional and parabolic microphone LiSN LS370 with a Roland R-09HR recorder (audio settings: Wave 96, Hz/24 bits). We obtained one oscillogram of the audio recording by using the software Wave Lab 4 Steinberg. It was compared with both the typical song of the species and with that of the nightingale, both of which obtained from a CD available in the market (Roché 1990).

From a visual analysis of the oscillogram patterns, it was possible to note a pattern similarity between a few parts of the song imitation and the nightingale song and, simultaneously, a difference between the song imitation and the song typical for great reed warblers (Fig. 1).

The song imitation and nightingale song showed a peak of 4000 Hz whereas the great reed warbler song showed a peak of 6000 Hz. Vocal mimicry is a behaviour quite common among the *Acrocephalus* species with records detected in *A. paludicola*, *A. agricola*, *A. dumetorum*, *A. palustris* e *A. scirpaceus* (Snow and Perrins 1998). The great reed warbler, however, is known to possess a limited song repertoire and no vocal mimicry has been recorded for this

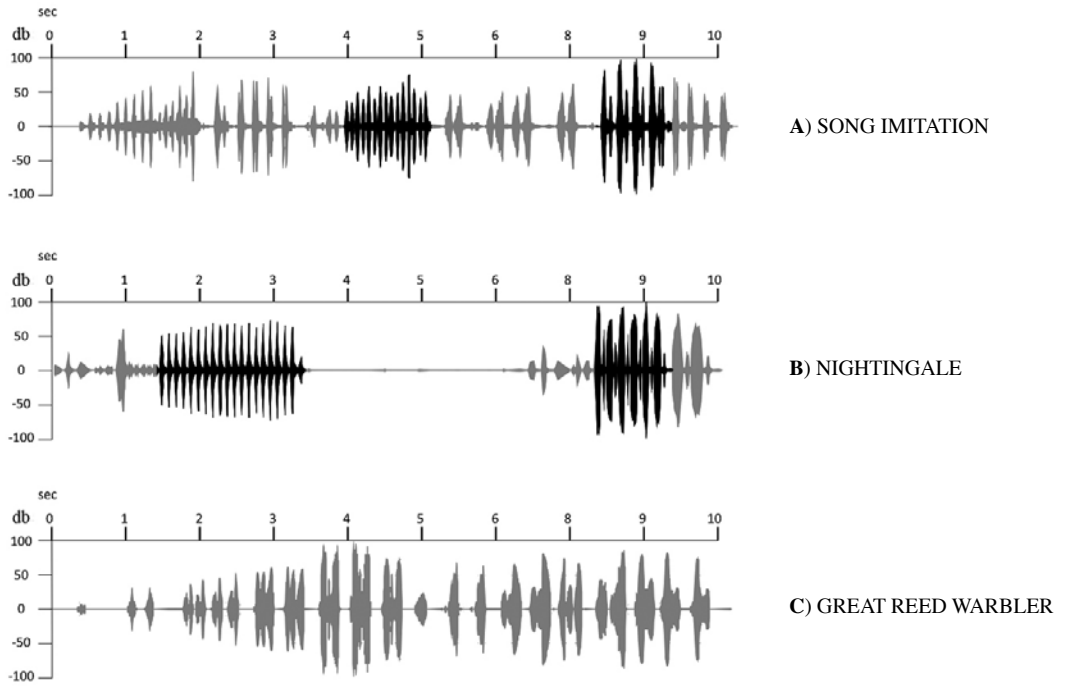

Figure 1. (A) Oscillogram obtained from one audio recording of a great reed warbler imitating a nightingale song in the wetland "la Madonnina" (Cuneo, Italy). Song imitation is compared with the song typical of nightingales (B) and great reed warblers (C). Similarities are highlighted by the same colours.

species yet (Snow and Perrins 1998, Brichetti and Fracasso 2010, Kennerley and Pearson 2010).

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