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BREVI NOTE / SHORT NOTES

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UPDATE TO THE STATUS AND DISTRIBUTION OF DIPPER *CINCLUS CINCLUS* (*Aves Cinclidae*) IN SICILY

Aggiornamento dello status di Merlo acquaiolo Cinclus cinclus (Aves Cinclidae) in Sicilia

As part of a long-term study on the distribution of the two species of dragonflies of the genus *Cordulegaster* sp. (Odonata Cordulegastridae) in Sicily, *C. trinacriae* Waterston, 1976 and *C. bidentata* Selys, 1843 we had the opportunity to extensively explore numerous rivers and streams of Sicily (CORSO, 2019). In the course of this research, given the suitability of the investigated environments, we were able to detect the presence of the Dipper *Cinclus cinclus aquaticus* (Bechstein, 1803) in numerous of the monitored sites, some of which were new stations for the presence of this localized species for Sicilian regional territory. In fact, in Sicily, the Dipper is sedentary, decreasing, very rare and closely connected to the few perennial streams of the region (CORSO, 2005).

Due to the modification of the water regime of these watercourses, such as the more or less legal or abusive catchment, concreting of the banks, deviation of the courses, pollution and so on, from the first half of the 20th century the Sicilian population had faced an evident decrease in its consistency and a fragmentation of its distribution range (AA.VV., 2008). In the first atlas of breeding birds in Sicily, 7 quadrants were reported where the species was present (MASSA, 1985), following more extensive research, 19 were the quadrants reported in the second Sicilian Atlas (LO VALVO *et al.* 1993). Finally, in the third and updated last Sicilian Atlas, only 8 sites of confirmed breeding were reported (AA.VV., 2008), with a decrease of as many as 11 sites (57.9% contraction).

The Sicilian population is of notable importance, being Sicily one of the main glacial refuges of the Western Palearctic and among the European population with the highest level of nucleotide and haplotype diversification (HOURLAY *et al.*, 2008). SARÀ *et al.* (1994) report 9 sites of confirmed breeding and a total of 12 possible/probable breeding sites, while they report 21 areas where the species disappeared, starting at least from 1950 onwards; they also report 11 sites of historical presence before the '50s no longer confirmed.

During our observations, we have observed the species in a total of 21 sites, at least 17 of these are new sites. In 11 of these sites (new and confirmed) we have verified the reproduction through observation of recently fledged juvenile or families parties, for a total of 11-15 pairs. In total we estimated 28-36 pairs, with confirmed or probable breeding (Tab. 1, Fig. 1). The altitudinal range varies from 200 m a.s.l. (Gola della Granciarà), the lowest altitude at which a reproductive pair was found, and 1400 m a.s.l. (Cartolari Lake). Except for one area in the province of Catania, and two in Palermo, all the other sites, and all the new ones, are found in the province of Messina. This could be due to the poor ornithological coverage in the previous Sicilian Atlas for this province, or also due to an

Tab. 1

Breeding sites of Dipper *Cinclus cinclus aquaticus* (new or confirmed sites) found during the present study. Are reported the toponym (including municipality and province), Google Earth coordinates, altitude in m a.s.l, breeding pairs and year of observation.

Toponym	Geographical coordinates Lat. Long. (WGS84)	Altitude m a.s.l.	No. estimated pairs	Year
Torrente Bagheria, Monforte San Giorgio (ME)	38°08'33"N 15°25'01"E	240	1-2	2019 (new site)
Torrente Niceto, San Pier Niceto (ME)	38°06'44"N 15°24'09"E	350	1	2016 (new site)
Torrente Floripotema, Santa Lucia del Mela (ME)	38°04'55"N 15°20'02"E	600-800	2	2017 (new site)
Torrente Mela, Santa Lucia del Mela (ME)	38°02'43"N 15°16'47"E	600	1-2	2016-2018 (new site)
Torrente Gilormella, Santa Lucia del Mela (ME)	38°04'52"N 15°16'44"E	400	1	2015 (new site)
Torrente Muto, Gualtieri Sicaminò (ME)	38°07'50"N 15°19'47"E	230	1	2008 (new site)
Monte Scuderi, Fiumedinisi (ME)	38°03'29"N 15°22'55"E	540	1-3	2015-2019 (new site)
Torrente Pagliara, C.da Ficarazzi Mandanici (ME)	38°00'07"N 15°18'57"E	360-400	2	2015-2019 (new site)
Torrente Savoca, Loc. Misserio, Santa Teresa di Riva(ME)	37°58'59"N 15°18'40"E	250	1	2017-2018 (new site)
Torrente Fiumedinisi, Fiumedinisi (ME)	38°01'43"N 15°22'27"E	190-250	2	2016-2018 (new site)
Fiumara d'Agro, Gole della Granciara, C.da S. Giorgio, Limina (ME)	37°57'17"N 15°16'13"E	200	1	2018-2019 (new site)
Torrente Mazzarà, Novara di Sicilia(ME)	38°00'43"N 15°06'47"E	400	1	2015-2016 (confirmed site)
Torrente Timeto, San Piero Patti (ME)	38°04'17"N 14°58'12"E	230-270	2-3	2018 (new site)
Torrente Licopedi, Roccella Valdemone (ME)	37°56'52"N 15°00'29"E	750	1-2	2010-2014 (confirmed site)
Torrente Elicona, Montalbano Elicona (ME)	37°59'40"N 15°01'40"E	990	1	2015-2016 (new site)
Torrente Catafurco, Galati Mamertino (ME)	38°00'15"N 14°47'47"E	750	2	2014-2018 (new site)
Lago Cartolari, Tortorici, Monti Nebrodi (ME)	37°56'35"N 14°49'09"E	1400	1	2015-2017 (new site)
Torrente Castelbuono, Castelbuono (PA)	37°52'40"N 14°04'41"E	900	1-2	2009-2017 (confirmed site)

Fiume Imera Meridionale, Petràlia Sottana (PA)	37°49'53"N 14°05'19"E	1000	1	2009-2017(new site)
Fiume Alcantara, Francavilla di Sicilia (ME)	37°53'42"N 15°08'39"E	300	1	2017 (new site)
Fiume Alcantara, Mojo Alcantara/Randazzo (ME-CT)	37°53'59"N 15°04'01"E	450-550	2009-2019 (confirmed site)	

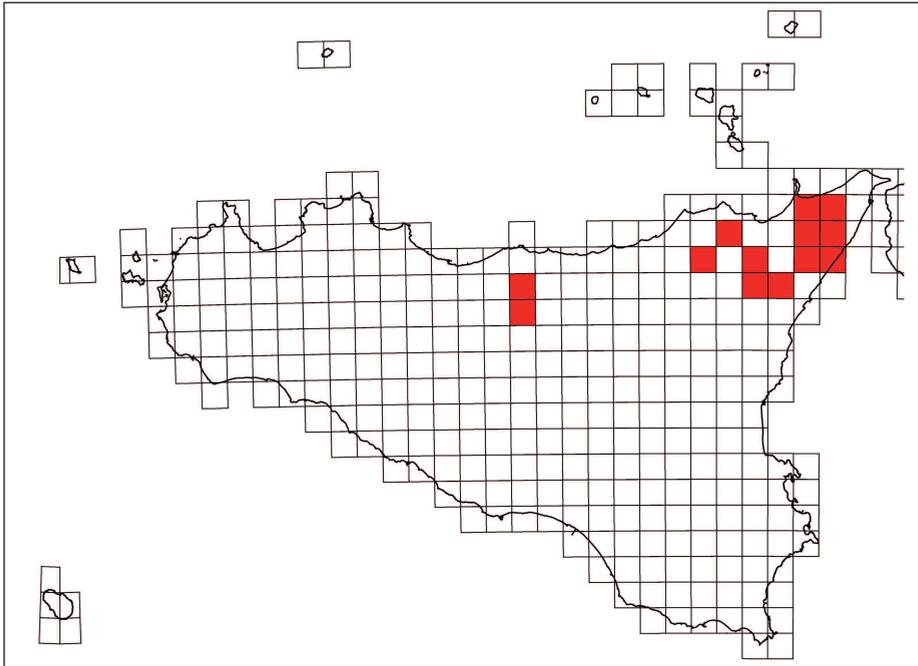


Fig. 1 — Updated distribution of Dipper *Cinclus cinclus* in the 10x10 UTM quadrants.

expansion phenomenon occurred in suitable sites of the Messina province in the last 10-15 years. On the other hand, we confirm the extinction in the Iblei mountains area, where in over thirty years of zoological observations, the species was never contacted. A more careful management of Sicilian streams and rivers would certainly positively influence the consistency of the Sicilian Dipper population, as well as that of numerous endangered species such as odonates, amphibians, crustaceans.

In addition to the infamous captioning of water, most often abusive even within regional parks and nature reserves, we want here to report a recent “fashion” which is seriously threatening Dipper breeding success: the “Aqua Trekking” or “Torrentism”. This “sport” constitutes a serious risk for all the species linked to the Sicilian torrential and river environments. In fact, since some years, even within parks and nature reserves, throughout the spring-summer season there are several organized mass and uncontrolled ascents of the most beautiful and once intact river beds. It follows a very strong, and in some sites continuous, disturbance as well as a direct destruction (for trampling) of odonates larvae, amphibians and their larval stages, of the freshwater invertebrate micro-

fauna with a consequent negative impact on reproduction and distribution in Sicily (and Italy) of the Dipper, as well as of all the other faunal species.

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