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# Second contribution to the knowledge of alien *Aedes* and native *Anopheles* mosquitoes (Diptera: Culicidae) in Northwest Lombardy (Northern Italy)

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**Abstract:** Extemporaneous mosquito survey performed from April 2023 to October 2023 extends the known distribution and provides further information on the ecology of some alien *Aedes* and native *Anopheles* species in Northwest Lombardy integrating a previous paper on the same topic (Martignoni 2023).

**Keywords:** *Aedes koreicus*, *Aedes japonicus*, *Anopheles claviger*, *Anopheles plumbeus*, *Anopheles messeae*, *Anopheles daciae*, *Anopheles maculipennis*

**Secondo contributo alla conoscenza di zanzare (Diptera: Culicidae) aliene del genere *Aedes* e native del genere *Anopheles* in Lombardia Nord-occidentale (Nord Italia)**

## RIASSUNTO ESTESO

**Introduzione:** Lo scopo di questa notizia è di integrare un precedente contributo (Martignoni 2023) su alcune specie di zanzare aliene del genere *Aedes* e native del genere *Anopheles* in Lombardia Nord-occidentale.

**Materiali e metodi:** La raccolta di zanzare (uova, larve, pupe e alate) è stata effettuata tra Aprile 2023 e Ottobre 2023 in 81 siti lombardi (Fig. 1, Tab. 1). Precedenti segnalazioni nell'area di studio (Fig. 2, evidenziati in grigio, nero e blu) si riferiscono ai dati e alle fonti bibliografiche riportati da Martignoni (2023) al quale si rimanda, integrati da Vogel (1931), Büttiker (1948), Fouque (1991), Schaffner & Mathis (2011), Gilioli et al. (2024) e dal database info fauna (CSCF) - SUPSI.

**Risultati e discussione:** Questo studio fornisce ulteriori informazioni sull'ecologia e la distribuzione di alcune specie di zanzare aliene del genere *Aedes* e native del genere *Anopheles* nella Lombardia Nord-occidentale, riportate in Tab. 1 e Fig. 2 (in rosso) e riassunte di seguito:

- *Aedes japonicus*: larve e pupe in un lavatoio (sito n° 77) in Provincia di Varese, in ambito forestale/periurbano.
- *Aedes koreicus*: larve e pupe in contenitori artificiali, femmine adulte nelle vicinanze dei siti riproduttivi; 7 siti complessivi in ambito forestale, agricolo, periurbano e urbano nelle Province di Como e Varese.
- *Anopheles claviger*: uova, larve e pupe in siti riproduttivi naturali, semi-naturali e artificiali; una femmina adulta nei pressi di un lavatoio (sito n° 81); tutti i 12 siti (in ambito forestale, agricolo e periurbano della Provincia di Varese) presentano acque fresche e pulite, ferme o a lento flusso.
- *Anopheles plumbeus*: larve e pupe in un cavo d'albero (sito n° 91, Fig. 3E) in ambito forestale/agricolo della Provincia di Varese.
- *Anopheles maculipennis* s.l. (sensu lato): larve e pupe in 57 siti naturali, semi-naturali e artificiali nei quattro distretti lombardi indagati; femmine adulte in 6 siti (indoor o semi-outdoor) in Provincia di Varese e nella Città metropolitana di Milano; 63 siti complessivi in ambito forestale, agricolo, periurbano e urbano.
- *Anopheles maculipennis* s.s. (sensu stricto): uova in 35 siti naturali, semi-naturali e artificiali nei quattro distretti lombardi indagati (in ambito forestale, agricolo, periurbano e urbano).
- *Anopheles messeae* / *Anopheles daciae*: uova in 8 siti naturali e semi-naturali in Provincia di Varese e nella Città metropolitana di Milano (in ambito forestale, agricolo e periurbano).

Tale contributo sembra confermare che raccolte di zanzare, sebbene estemporanee, condotte nel tempo libero e con mezzi e attrezzature poco sofisticati possono contribuire alla conoscenza della distribuzione (Fig. 2) e dell'ecologia (Tab. 1) delle zanzare in un territorio. Raccolte sistematiche ed estese su aree più ampie sono chiaramente desiderabili.

**Parole chiave:** *Aedes koreicus*, *Aedes japonicus*, *Anopheles claviger*, *Anopheles plumbeus*, *Anopheles messeae*, *Anopheles daciae*, *Anopheles maculipennis*

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## INTRODUCTION

The aim of this short communication is to integrate a previous contribution (Martignoni 2023) on the distribution and the ecology of some alien *Aedes* and native *Anopheles* mosquito species in the Northwest of Lombardy.

## MATERIALS AND METHODS

This paper is based on mosquito collections carried out from April 2023 to October 2023 in 81 sites (Fig. 1 and Tab. 1) distributed in four districts (Metropolitan City of Milan, Provinces of Como, Lecco and Varese) of Lombardy at altitudes between 101 m and 748 m above sea level, in a variety of habitats (some examples of the breeding sites visited are shown in Fig. 3). A detailed description of the sites, dates and methods of collection is presented in Tab. 1. Sites n° 32, 35, 37, 61 and 62 were visited by the author between 2019 and 2022 (Martignoni 2023) and revisited in 2023.

Methods (concerning study area, species identification, nomenclature and collection of specimens) are the same exposed in Martignoni (2023) with the following integrations:

- identification of *Anopheles claviger* eggs was undertaken by morphological criteria as described in Angelucci (1955) and Del Vecchio (1939);
- the nomenclature adopted takes into account the recent reconsideration of Wilkerson et al. (2022), in which the nominotypical form of *Aedes japonicus* is formally elevated to species rank;
- in site n° 128 BG-Sentinel mosquito trap (Biogents AG, Regensburg, Germany) was baited with BG Mozzibait attractive, BG-CO<sub>2</sub> generator and BG UV light.

Previous reports on the presence of the investigated mosquito species in the study area (highlighted with grey, black and blue dots in Fig. 2) are based on the data reported by Martignoni (2023) and on the references cited in the same paper (for further details see appendix 1 and bibliography in Martignoni 2023), integrated by the data of Vogel (1931), Büttiker (1948), Fouque (1991), Schaffner & Mathis (2011) and the info fauna (CSCF) - SUPSI database for the Cantons of Ticino and Grisons and of Gilioli et al. (2024) for Lombardy.

## RESULTS AND DISCUSSION

This short communication provides more information on the ecology and the distribution of some alien *Aedes* and native *Anopheles* mosquitoes in the Northwest of Lombardy, exposed in details in Fig. 2 (red dots) and Tab. 1 and summarized below:

### *Aedes (Hulecoeteomyia) japonicus* (Theobald, 1901)

Larvae and pupae were found in a wash house (site n° 77), on the outskirts of Coquio Trevisago (Province of Varese), in a forested/peri-urban area.

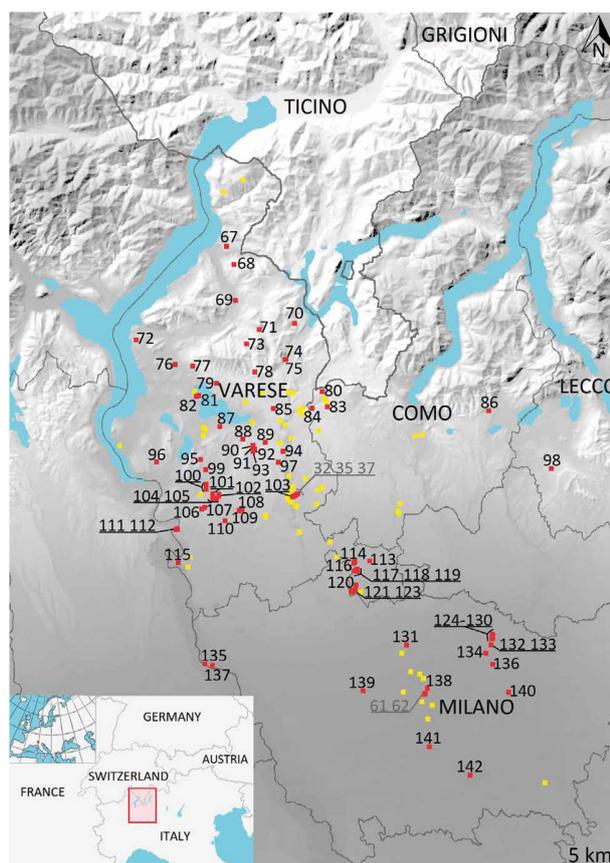


Figure 1: Detailed map showing the study area and sampling locations. Yellow dots: sampling locations visited by the author in 2019-2022 (Martignoni 2023); red dots: sampling locations visited in 2023 (this paper). Sites n° 32, 35, 37, 61 and 62 (written in grey) were visited by the author between 2019 and 2022 (Martignoni 2023) and revisited in 2023. The base map is modified from Tarquini et al. (2007). The small box shows the location of the study area (in red) within Europe.

### *Aedes (Hulecoeteomyia) koreicus* (Edwards, 1917)

Larvae and pupae were found in artificial water-filled containers (drinking fountain, bird baths, drinking trough, rain water drums, tyres) while adult females were found outdoors, near an old public springs (site n° 103) and tyres (site n° 119). The sites (7 in total) are located in forested, cultivated, peri-urban and urban areas of the Provinces of Como and Varese.

### *Anopheles (Anopheles) claviger* (Meigen, 1804)

Eggs, larvae and pupae were found in natural (stream puddles and pools, bogs, reed beds, spring wells, swamp, small pond), semi-natural (ditches) and artificial (wash houses) breeding sites. An adult female was also collected near a wash house (Fontana dei Cjössitt, site n° 81). All 12 sites (in forested, cultivated and peri-urban areas of the Province of Varese) have fresh and clean, still or slightly flowing water.

### *Anopheles (Anopheles) plumbeus* (Stephens, 1828)

Larvae and pupae were found in a water-filled tree-hole (*Prunus serotina* Ehrh.), in a forested/cultivated area of the Province of Varese (Fontana Prella, site n° 91, Fig. 3E).

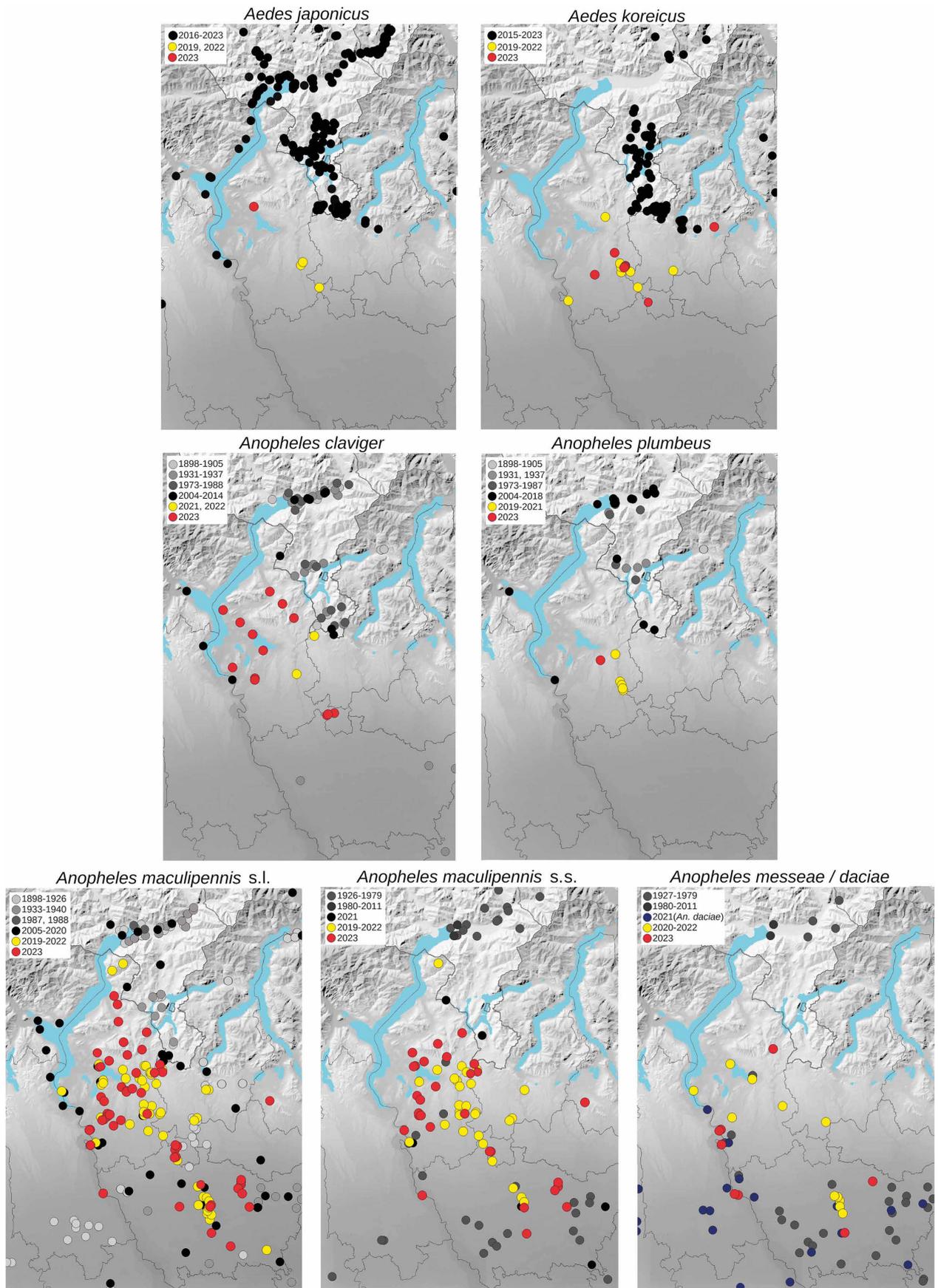


Figure 2: Distribution in the study area of the investigated mosquito species. Grey, black and blue dots: data according to references. Yellow dots: data collected by the author in 2019-2022 (Martignoni 2023). Red dots: records from this paper. The date ranges of the reports are shown in a small box of each map. The base map is modified from Tarquini et al. (2007).

### **Anopheles Maculipennis Complex**

#### ***Anopheles (Anopheles) maculipennis s.l. (sensu lato)***

Larvae and pupae were collected in 57 natural (small and large ponds, stream puddles and pools, bogs, reed beds, semi-permanent marsh, swamp, ephemeral pools), semi-natural (ditches, canal margins, quarry pond) and artificial (wash houses, ornamental fountain, ornamental pool, catch basin, paddling pool, rain water drums, concrete container pond) breeding sites in the four investigated districts of Lombardy. Adult females were collected indoor (civil buildings, building's basement) and semi-outdoor (porch, bunker) in 6 sites of the Province of Varese and the Metropolitan City of

Milan. The sites (63 in total) are located in forested, cultivated, peri-urban and urban areas.

#### ***Anopheles (Anopheles) maculipennis s.s. (sensu stricto) (Meigen, 1818)***

Eggs were collected in 35 natural (small and large ponds, stream puddles, bog, reed beds, semi-permanent marsh, swamp, ephemeral pools), semi-natural (ditches, canal margins) and artificial (wash house, ornamental fountain, ornamental pool, catch basin, paddling pool, concrete container pond) breeding sites in forested, cultivated, peri-urban and urban areas of the four investigated districts of Lombardy.



Figure 3: Some of the breeding sites visited by the author: A) Stream pools (Torrente Rancina, site n° 69, 19.08.2023), B) Bog (Torbiera di Cavagnano, site n° 70, 18.08.2023), C) Pool (Cascina Tagliata, site n° 78, 08.07.2023), D) Wash house (lago di Biandronno, site n° 82, 05.08.2023), E) Tree hole (Fontana Prella, site n° 91, 07.08.2023), F) Pool, marsh (Lagozza, site n° 102, 02.07.2023), G) Spring wells (Lazzaretto, site n° 106, 28.07.2023), H) Ditches, stream pools (Fontanile di S. Giacomo, site n° 113, 20.09.2023), I) Ditches, pool (Lavatoio di Castelnovate, site n° 115, 14.08.2023), L) Abandoned tyres (Cava Fusi Regusella, site n° 119, 10.09.2023), M) Swamp, quarry pond (Cava Fusi Regusella, site n° 123, 10.09.2023), N) Ornamental pool (Parco Nord Milano, site n° 124, 03.08.2023). All photos are by the author.

***Anopheles (Anopheles) messeae* (Falleroni, 1926) /  
*Anopheles (Anopheles) daciae* (Linton, Nicolescu  
and Harbach, 2004)**

Eggs were collected in 8 natural (small pond, stream puddles, bog, reed beds, swamp) and semi-natural (quarry pond, ditches, canal margins) breeding sites in forested, cultivated and peri-urban areas of the Province of Varese and of the Metropolitan City of Milan.

The data here presented seems to confirm that extemporaneous mosquito surveys, although achieved with limited time, means and equipment, can contribute to increase the local knowledge on the distribution and the ecology of mosquitoes. More systematic and widespread surveys are clearly desirable for better mosquito surveillance and control.

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Table 1: Details on sampling sites and specimen collection, with dates and methods of collection. The sites' numbers are the same used in Fig. 1, ordered by decreasing latitudes. Coordinates are in World Geodetic System 84 (WGS84), in some cases approximated for privacy protection. Altitudes (Alt.) are in meters above sea level. Dates of collection are reported as dd.mm.yy. Abbreviations.

District: (CO) = Province of Como, (LC) = Province of Lecco, (MI) = Metropolitan City of Milan, (VA) = Province of Varese.  
 Landscape (Lan.): Fvf = Fluvial valleys (flood plain), Fvr = Fluvial valleys (risers), Il = Insubric lakes, Lp = Lower plain, Mh = Morainic hills, Mi = Mountains (igneous), Mm = Mountains (metamorphic), Ms = Mountains (sedimentary), Udp = Upper diluvial plain.  
 Ecosystem: C = crops, Me = Meadows, Pa = Pastures, Pe = Peri-urban (urban-rural/natural), U = urban, W = Woodlands, Wma = wet Woodlands and marshes, Wme = wet Woodlands and flooded meadows.  
 Collection methods (superscript on dates): BGT = BG-Sentinel mosquito trap, EC = Eggs Collection, IRC = Indoor Resting Collection, LC = Larval Collection (larvae and pupae), ORC = Outdoor Resting Collection, SORC = Semi Outdoor Resting Collection.

Site	Municipality (District)	Toponym	Sampling sites				Dates and methods of specimens collection									
			Coordinates	Alt.	Lan.	Ecosystem	Habitat	<i>Aedes</i>		<i>Anopheles</i>						
										<i>japonicus</i>	<i>koreicus</i>	<i>claviger</i>	<i>plumbeus</i>	<i>maculipennis</i> s.l.	<i>maculipennis</i> s.s.	<i>messeeae / daciae</i>
67	Luino (VA)	Stagno di Moncucco	45°59'55.40"N 8°45'41.60"E	354	Mm	Pe, W	Small pond							19.08.2023 <sup>LC</sup>		
68	Monteregno V. (VA)	Laghetto di Monteregno	45°58'39.00"N 8°46'25.26"E	748	Mm	Me, Pe, W	Small pond							19.08.2023 <sup>LC</sup>		
69	Casano V. (VA)	Torrente Rancina	45°56'5.34"N 8°46'37.18"E	580	Fvf	C, Me, W	Stream puddles and pools					19.08.2023 <sup>LC</sup>		19.08.2023 <sup>LC</sup>		
70	Cuasso al M. (VA)	Torbiere di Cavagnano	45°54'30.34"N 8°52'35.72"E	554	MI	Me, Pe, W	Bog, Reed beds							18.08.2023 <sup>LC</sup>	18.08.2023 <sup>LC</sup>	
71	Valkanna (VA)	Occhio del Frate, Prelugano	45°54'1.66"N 8°49'55.89"E	464	MI	W	Bog, Reed beds							18.08.2023 <sup>LC</sup>		
72	Laveno M. (VA)	Torbiere di Mombello	45°53'19.91"N 8°36'30.27"E	252	Il, Ms	Me, Pe, W	Bog, Reed beds							19.08.2023 <sup>LC</sup>		
73	Brinzio (VA)	Laghetto di Brinzio	45°53'4.26"N 8°47'40.78"E	510	Mm, Ms	Me, Pe, W	Large pond							18.08.2023 <sup>LC</sup>	18.08.2023 <sup>LC</sup>	
74	Arciate (VA)	Laghetto Cicogna	45°51'53.78"N 8°51'41.24"E	367	Fvf, Ms	Pe, W	Bog, Reed beds							18.08.2023 <sup>LC</sup>		18.08.2023 <sup>LC</sup>
75	Arciate (VA)	Sorgenti Laghetto Cicogna	45°51'53.14"N 8°51'37.78"E	376	Fvf, Ms	Pe, W	Spring wells							18.08.2023 <sup>LC</sup>		18.08.2023 <sup>LC</sup>
76	Coquilo T. (VA)	Beverina	45°51'38.80"N 8°40'29.60"E	235	Il, Mh	Me, Wma	Ditches, Swamp					08.07.2023 <sup>LC</sup>		08.07.2023 <sup>LC</sup>		
77	Coquilo T. (VA)	Coquilo	45°51'29.26"N 8°42'12.87"E	319	Il, Ms	Pe, W	Wash-house (laivoir)	05.08.2023 <sup>LC</sup>						05.08.2023 <sup>LC</sup>	05.08.2023 <sup>LC</sup>	
78	Varese (VA)	Cascina Tagliata	45°51'6.53"N 8°48'31.11"E	535	Ms	Pe, W	Small pond							08.07.2023 <sup>LC</sup>	08.07.2023 <sup>LC</sup>	
79	Comerio (VA)	Villa Tatti Tallacchini	45°50'16.17"N 8°44'41.53"E	354	Il, Ms	Me, Pe, W	Ornamental fountain							05.08.2023 <sup>LC</sup>	05.08.2023 <sup>LC</sup>	
80	Rodero (CO)	Colle di San Maffeo	45°49'43.03"N 8°55'24.3"E	402	Fvf, Mh	Me, W	Small pond							16.07.2023 <sup>LC</sup>	16.07.2023 <sup>LC</sup>	
81	Blandronno (VA)	Fontana dei Cidssitt	45°49'21.93"N 8°42'48.66"E	247	Il	Pe, Wme	Wash-house (laivoir)					05.08.2023 <sup>LC</sup>		05.08.2023 <sup>LC</sup>	05.08.2023 <sup>LC</sup>	
82	Blandronno (VA)	Lago di Blandronno	45°49'20.18"N 8°42'35.59"E	245	Il	Pe, Wme	Wash-house (laivoir)					05.08.2023 <sup>LC</sup>		05.08.2023 <sup>LC</sup>	05.08.2023 <sup>LC</sup>	
83	Valmorea (CO)	Caversaccio	45°48'41.15"N 8°55'59.47"E	414	Fvr, Mh	Me, W	Small pond							29.07.2023 <sup>LC</sup>	29.07.2023 <sup>LC</sup>	
84	Solbiate c. C. (CO)	Rocca	45°48'32.65"N 8°54'20.59"E	416	Fvr, Mh	Me, W	Small pond							29.07.2023 <sup>LC</sup>	29.07.2023 <sup>LC</sup>	
85	Varese (VA)	Bucchinigo	45°48'3.33"N 8°50'2.33"E	407	Mh	U	Indoor							17.09.2023 <sup>LC</sup>		
86	Erba (CO)	Bucchinigo	45°48'21.52"N 9°12'23.53"E	350	Il, Mh	Pe, U	Drinking fountain					14.09.2023 <sup>LC</sup>				
87	Bodio (VA)	Bodio	45°47'16.71"N 8°45'3.82"E	273	Il, Mh	Me, Pe, W	Wash-house (laivoir)							05.08.2023 <sup>LC</sup>		
88	Azzate (VA)	Vecgonno	45°46'22.86"N 8°47'15.10"E	317	Mh	Me, Pe, W	Wash-house (laivoir)							05.08.2023 <sup>LC</sup>	05.08.2023 <sup>LC</sup>	
89	Morazzone (VA)	Lavatoio Borrazzi	45°46'10.10"N 8°49'36.27"E	395	Fvr	Pe, W	Wash-house (laivoir)							22.07.2023 <sup>LC</sup>		
90	Castronno (VA)	Fontana Prella	45°45'51.23"N 8°48'26.83"E	344	Fvr, Mh	Me, W	Stream puddles and pools							07.08.2023 <sup>LC</sup>		
91	Castronno (VA)	Fontana Prella	45°45'51.24"N 8°48'27.61"E	344	Fvr, Mh	Me, W	Water filled tree hole					07.08.2023 <sup>LC</sup>				
92	Castronno (VA)	Sant'Alessandro	45°45'38.55"N 8°48'34.07"E	337	Fvr, Mh	Me, Pe, W	Stream puddles and pools							07.08.2023 <sup>LC</sup>		
93	Castronno (VA)	Lavatoio Sant'Alessandro	45°45'34.58"N 8°48'28.70"E	331	Fvr, Mh	Me, Pe, W	Wash-house (laivoir)							23.07.2023 <sup>LC</sup>		
94	Castiglione O. (VA)	Lavatoio Mazzucchelli	45°45'29.96"N 8°51'27.91"E	339	Udp	Me, Pe, W	Wash-house (laivoir)							08.07.2023 <sup>LC</sup>	08.07.2023 <sup>LC</sup>	
95	Vergiate (VA)	Monte Vermatte	45°44'54.11"N 8°43'3.31"E	317	Mh	W	Small pond							22.07.2023 <sup>LC</sup>	22.07.2023 <sup>LC</sup>	
96	Sesto C. (VA)	Torrente Lenza	45°44'47.33"N 8°38'37.34"E	259	Mh	Me, Wma	Ditches					22.07.2023 <sup>LC</sup>				
97	Gornate O. (VA)	Chiesa della Madonnetta	45°44'44.28"N 8°50'58.65"E	379	Fvr	Me, W	Bird baths	28.07.2023 <sup>LC</sup>								
98	Cremella (LC)	Cremella	45°44'1.11"N 9°18'3.33"E	356	Mh	C, Pe, W	Catch basin							28.06.2023 <sup>LC</sup>	28.06.2023 <sup>LC</sup>	
99	Vergiate (VA)	Cimbro, Lavatoio Firello	45°44'15.42"N 8°43'39.32"E	276	Mh	Me, W	Wash-house (laivoir)							12.08.2023 <sup>LC</sup>	12.08.2023 <sup>LC</sup>	
100	Arsago S. (VA)	Valle Bagnoli	45°42'51.08"N 8°43'39.36"E	264	Mh	C, Wma, Wme	Ditches					15.07.2023 <sup>LC</sup>				
101	Arsago S. (VA)	Valle Bagnoli	45°43'11.70"N 8°43'39.15"E	262	Mh	Me, W	Ditches					15.07.2023 <sup>LC</sup>				
102	Lonate C. (VA)	Centenate, Lagozza	45°42'3.33"N 8°53'1.11"E	290	Udp	C, Pe	Rain water drums	30.05.2023 <sup>LC</sup>						02.07.2023 <sup>LC</sup>	02.07.2023 <sup>LC</sup>	
103	Arsago S. (VA)	Fontana Vecchia	45°42'23.59"N 8°44'19.89"E	273	Mh	Me, W	Small pond							14.05.2023 <sup>LC</sup>	22.04.2023 <sup>LC</sup>	
35	Lonate C. (VA)	Centenate, Lagozza	45°42'2.33"N 8°52'5.33"E	288	Udp	Pe, U	Padding pool							26.05.2023 <sup>LC</sup>	26.05.2023 <sup>LC</sup>	
104	Besnate (VA)	Centenate, Lagozza	45°42'20.34"N 8°44'57.88"E	275	Mh	Me, Pe, W	Small pond, Semi-permanent marsh							02.07.2023 <sup>LC</sup>		
37	Lonate C. (VA)	Centenate, Lagozza	45°42'23.70"N 8°44'53.57"E	285	Udp	U	Rain water drums	04.08.2023 <sup>LC</sup>						04.08.2023 <sup>LC</sup>		
103	Lonate C. (VA)	Fontanella del Consacrato	45°42'12.25"N 8°52'17.87"E	270	Fvr	Pe, W	Old public springs	07.08.2023 <sup>SORC</sup>								
104	Besnate (VA)	Stagno nuovo della Signora	45°42'11.20"N 8°44'15.51"E	290	Mh	W	Small pond							02.07.2023 <sup>LC</sup>	02.07.2023 <sup>LC</sup>	
105	Arsago S. (VA)	Lagozetta	45°42'11.18"N 8°43'43.01"E	283	Mh	W	Bog							02.07.2023 <sup>LC</sup>	02.07.2023 <sup>LC</sup>	
106	Arsago S. (VA)	Lazaretto	45°41'32.19"N 8°43'30.76"E	296	Mh	C, Wma, Wme	Swamp							28.07.2023 <sup>LC</sup>	28.07.2023 <sup>LC</sup>	
107	Arsago S. (VA)	Madonna della Ghianda	45°41'30.30"N 8°43'11.02"E	295	Mh	Me, W	Semi-permanent marsh							15.07.2023 <sup>LC</sup>	15.07.2023 <sup>LC</sup>	
108	Cavarina con P. (VA)	Sorgiorille, Premazzo	45°41'24.69"N 8°47'10.28"E	269	Mh	Me, Wma	Small pond, Reed beds							28.07.2023 <sup>LC</sup>		
109	Cavarina con P. (VA)	Sorgiorille, Premazzo	45°41'24.02"N 8°46'55.53"E	268	Mh	Me, Wma	Bird baths, drinking trough	28.07.2023 <sup>LC</sup>								
110	Gallarate (VA)	Palude bassa, Morigella	45°40'40.15"N 8°45'39.11"E	287	Mh	W, Wma	Ditches, Swamps							16.07.2023 <sup>LC</sup>	16.07.2023 <sup>LC</sup>	
111	Somma L. (VA)	Panperduto, Maddalena	45°40'24.66"N 8°40'44.23"E	190	Fvf	W, Wma	Canal margins							14.08.2023 <sup>LC</sup>	14.08.2023 <sup>LC</sup>	14.08.2023 <sup>LC</sup>
112	Somma L. (VA)	Panperduto, Maddalena	45°40'1.59"N 8°40'36.75"E	190	Fvf	W, Wma	Canal margins							14.08.2023 <sup>LC</sup>	14.08.2023 <sup>LC</sup>	14.08.2023 <sup>LC</sup>
113	Gerenzano (VA)	Fontanille di S. Giacomo	45°37'49.87"N 9°01'2.29"E	217	Lp	C, Pe, W	Ditches, Stream pools	20.09.2023 <sup>LC</sup>						15.09.2023 <sup>LC</sup>	15.09.2023 <sup>LC</sup>	
114	Gerenzano (VA)	Parco degli Alroni	45°37'49.87"N 8°58'50.33"E	209	Lp	C, Pe, W	Ditches	15.09.2023 <sup>LC</sup>						15.09.2023 <sup>LC</sup>	15.09.2023 <sup>LC</sup>	
115	Vizzola Ticino (VA)	Lavatoio di Castelnovate	45°37'42.38"N 8°40'48.03"E	161	Fvf	Me, Wme, W	Ditches, Small pond							14.08.2023 <sup>LC</sup>		14.08.2023 <sup>LC</sup>
116	Gerenzano (VA)	Parco degli Alroni	45°37'42.29"N 8°58'38.32"E	210	Lp	C, Pa, W	Ditches, Small pond	15.09.2023 <sup>LC</sup>						15.09.2023 <sup>LC</sup>		
117	Uboldo (VA)	Cava Fusi Reusella	45°37'10.87"N 8°58'57.26"E	207	Lp	C, Me, W	Ephemeral pools							10.09.2023 <sup>LC</sup>	10.09.2023 <sup>LC</sup>	
118	Gerenzano (VA)	Cava Fusi Reusella	45°37'39.98"N 8°58'40.87"E	200	Lp	C, Me, W	Ephemeral pool							10.09.2023 <sup>LC</sup>	10.09.2023 <sup>LC</sup>	
119	Uboldo (VA)	Cava Fusi Reusella	45°37'2.46"N 8°58'58.68"E	195	Lp	C, Me, W	Tires	10.09.2023 <sup>SORC</sup>						10.09.2023 <sup>LC</sup>		
120	Uboldo (VA)	Parco del Mughetti	45°35'59.95"N 8°58'47.13"E	211	Lp	C, W	Small pond							15.09.2023 <sup>LC</sup>		
121	Uboldo (VA)	Cava Fusi Reusella	45°35'41.91"N 8°58'35.20"E	186	Lp	C, W	Ephemeral pool							10.09.2023 <sup>LC</sup>		
122	Uboldo (VA)	Cava Fusi Reusella	45°35'41.65"N 8°58'16.00"E	186	Lp	C, W	Ditches, Small pond							10.09.2023 <sup>LC</sup>		
123	Uboldo (VA)	Cava Fusi Reusella	45°35'39.07"N 8°58'16.87"E	186	Lp	C, W	Ditches, Small pond							10.09.2023 <sup>LC</sup>		
124	Cinsello B. (MI)	Parco Nord Milano	45°35'41.02"N 9°12'27.39"E	176	Lp	C, W, Wma	Quarry pond, Swamp							10.09.2023 <sup>LC</sup>		
125	Cinsello B. (MI)	Parco Nord Milano	45°32'27.86"N 9°12'34.00"E	145	Lp	Me, W	Small pond							23.06.2023 <sup>LC</sup>	23.06.2023 <sup>LC</sup>	03.08.2023 <sup>LC</sup>
126	Cinsello B. (MI)	Parco Nord Milano	45°32'27.86"N 9°12'34.00"E	145	Lp	Me, W	Small pond							16.06.2023 <sup>LC</sup>	16.06.2023 <sup>LC</sup>	03.08.2023 <sup>LC</sup>
127	Cinsello B. (MI)	Parco Nord Milano	45°32'21.02"N 9°12'35.63"E	144	Lp											