FONDAZIONE EDMUND MACH
CENTRO RICERCA e INNOVAZIONE

VectAbundance: a spatio-temporal database of vector observations

Giovanni Marini

Daniele Da Re, Carmelo Bonannella, Fabrizio Laurini, Mattia Manica, Nikoleta Anicic, Alessandro Albieri, Paola Angelini, Daniele Arnoldi, Marharyta Blaha, Federica Bertola, Beniamino Caputo, Claudio De Liberato, Alessandra della Torre, Eleonora Flacio, Alessandra Franceschini, Francesco Gradoni, Përparim Kadriaj, Valeria Lencioni, Irene Del Lesto, Francesco La Russa, Riccardo Paolo Lia, Fabrizio Montarsi, Domenico Otranto, Gregory L'Ambert, Annapaola Rizzoli, Pasquale Rombolà, Federico Romiti, Gionata Stancher, Alessandra Torina, Enkelejda Velo, Chiara Virgillito, Fabiana Zandonai & Roberto Rosà

Climate-Sensitive Vector Dynamics Modelling Workshop, 19 September 2024

Involved partners

Starting point: AIM-COST action https://www.aedescost.eu/

Scuola universitaria professionale della Svizzera italiana

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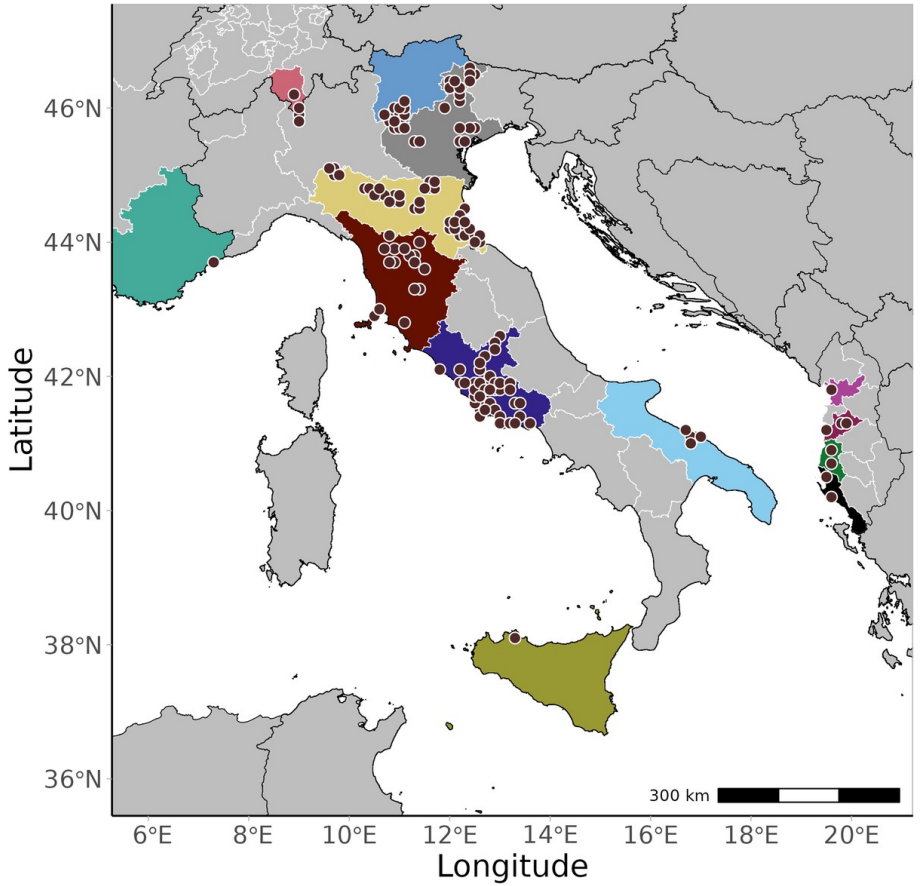
Data collection

Individual Ovitraps: 2631
Temporal coverage: 2010-2022



NUTS2

- Apulia
- Canton of Ticino
- Emilia-Romagna
- Fier
- Lazio
- Lezhë
- Provence-Alpes-Côte d'Azur
- Sicily
- Tiranë
- Toscana
- Trentino-Alto Adige
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- Vlorë

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Data standardization

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Weekly aggregation. Temporal downscaling by randomly distributing the observed egg counts throughout the trap activity period (if >1week).

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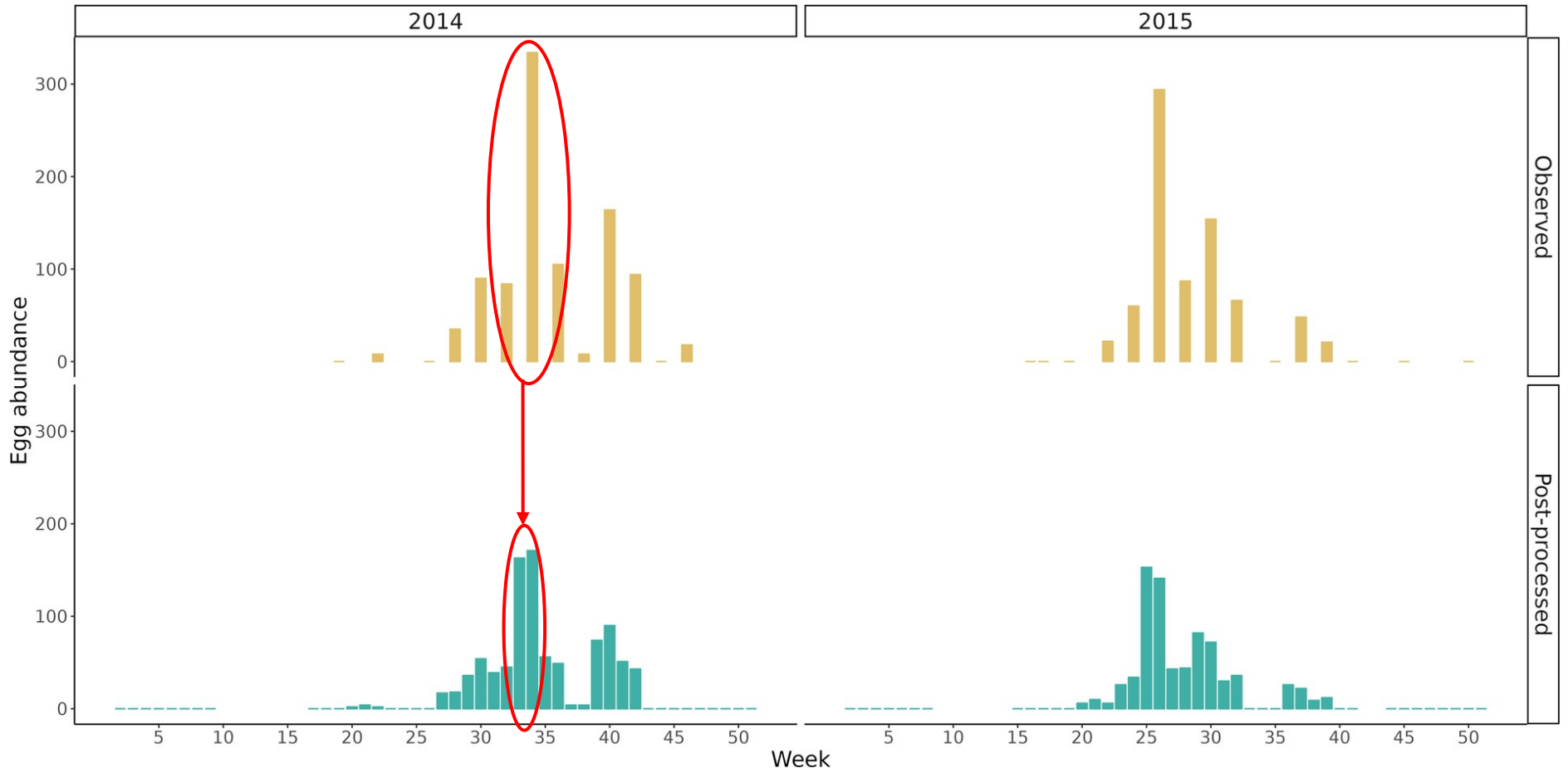

Data standardization

November, December, January and February: if no observation data was provided, the egg count was assumed to be zero. However, if observations were available, the weekly number of eggs was calculated as the average of the observations for each month.

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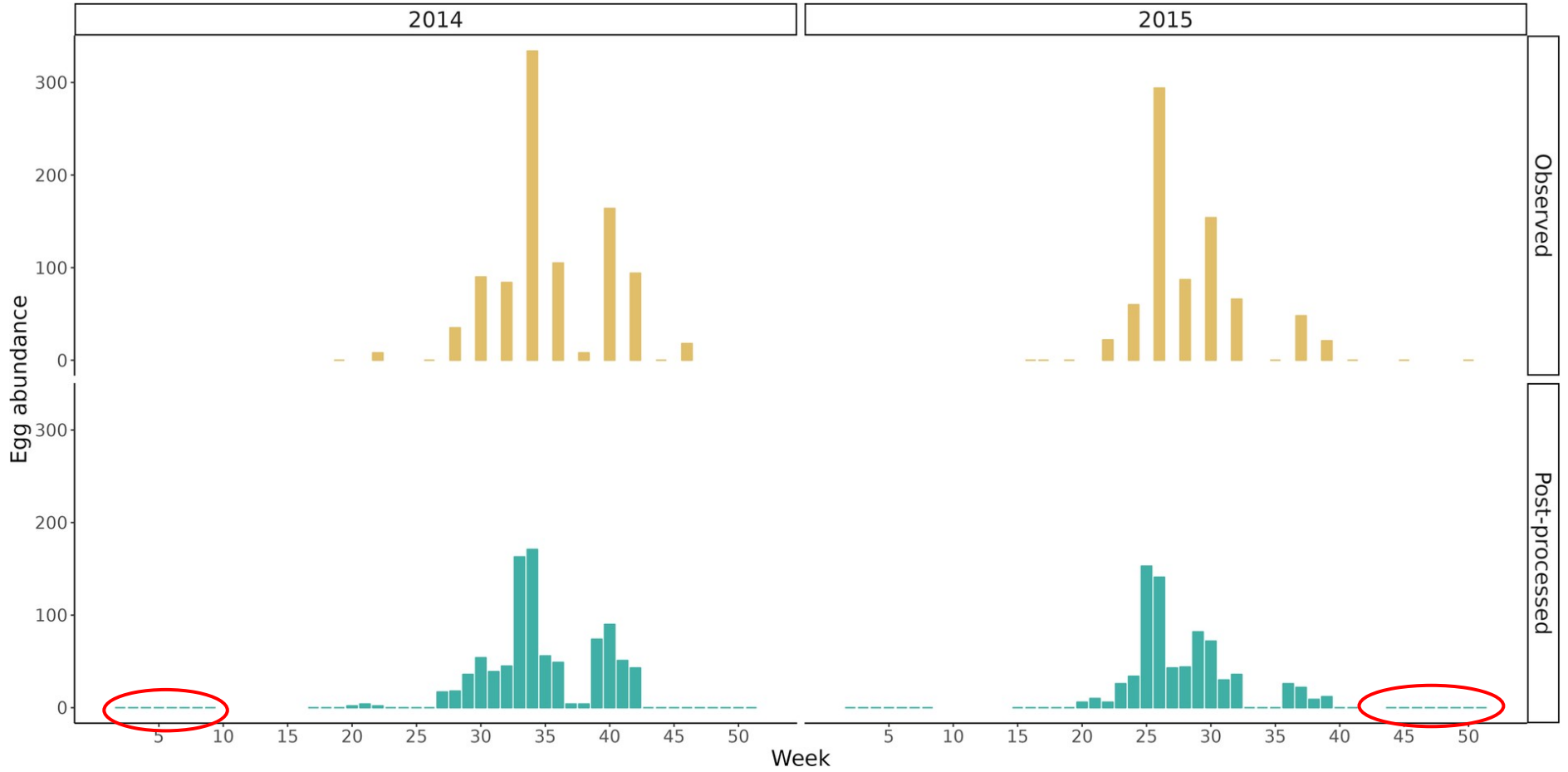

Data standardization

- March and April: if no observation data was provided, the egg count was marked as “NA,” indicating missing or unavailable data, because under warm temperature conditions, egg hatching might already occur from March.

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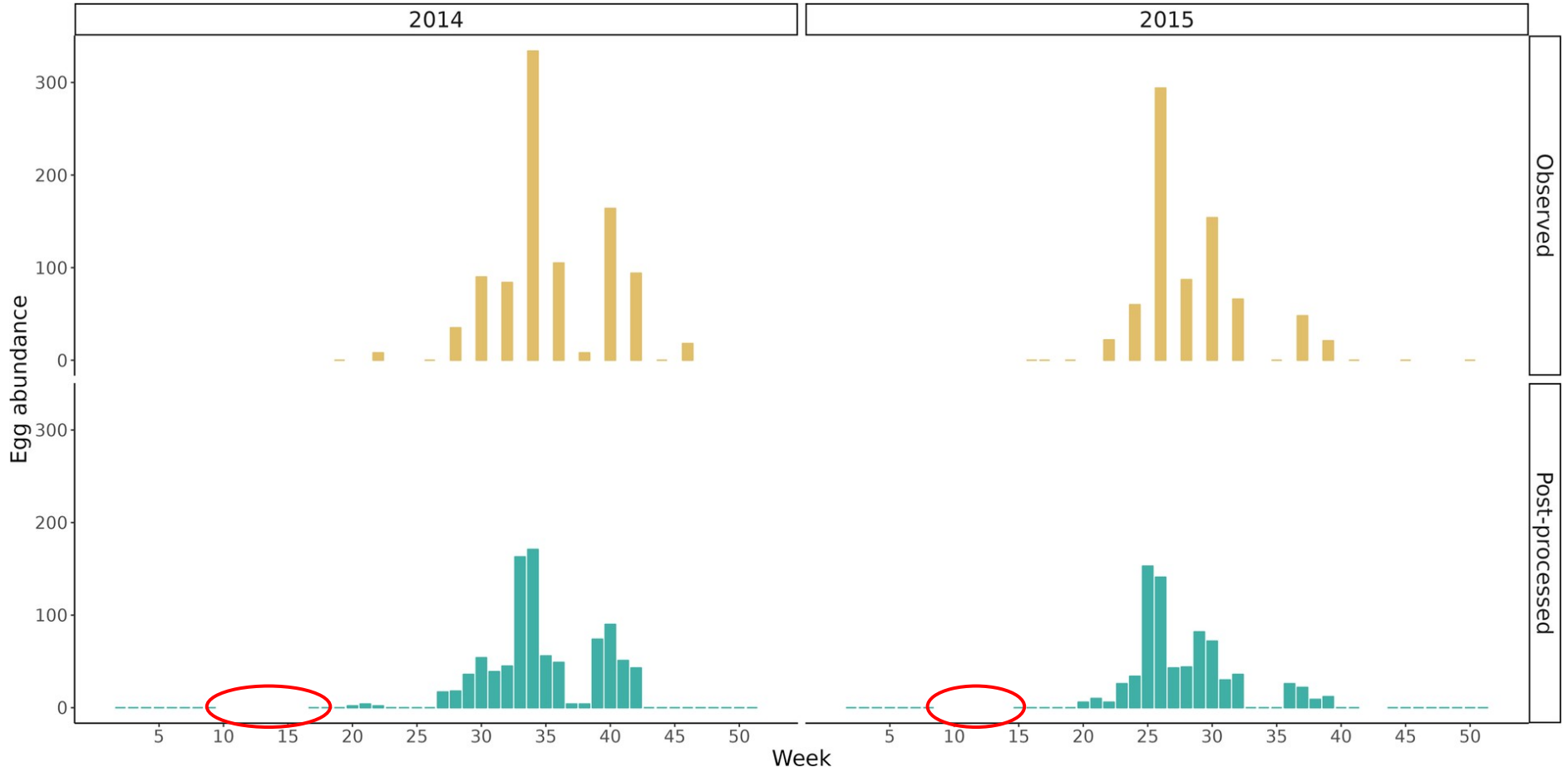
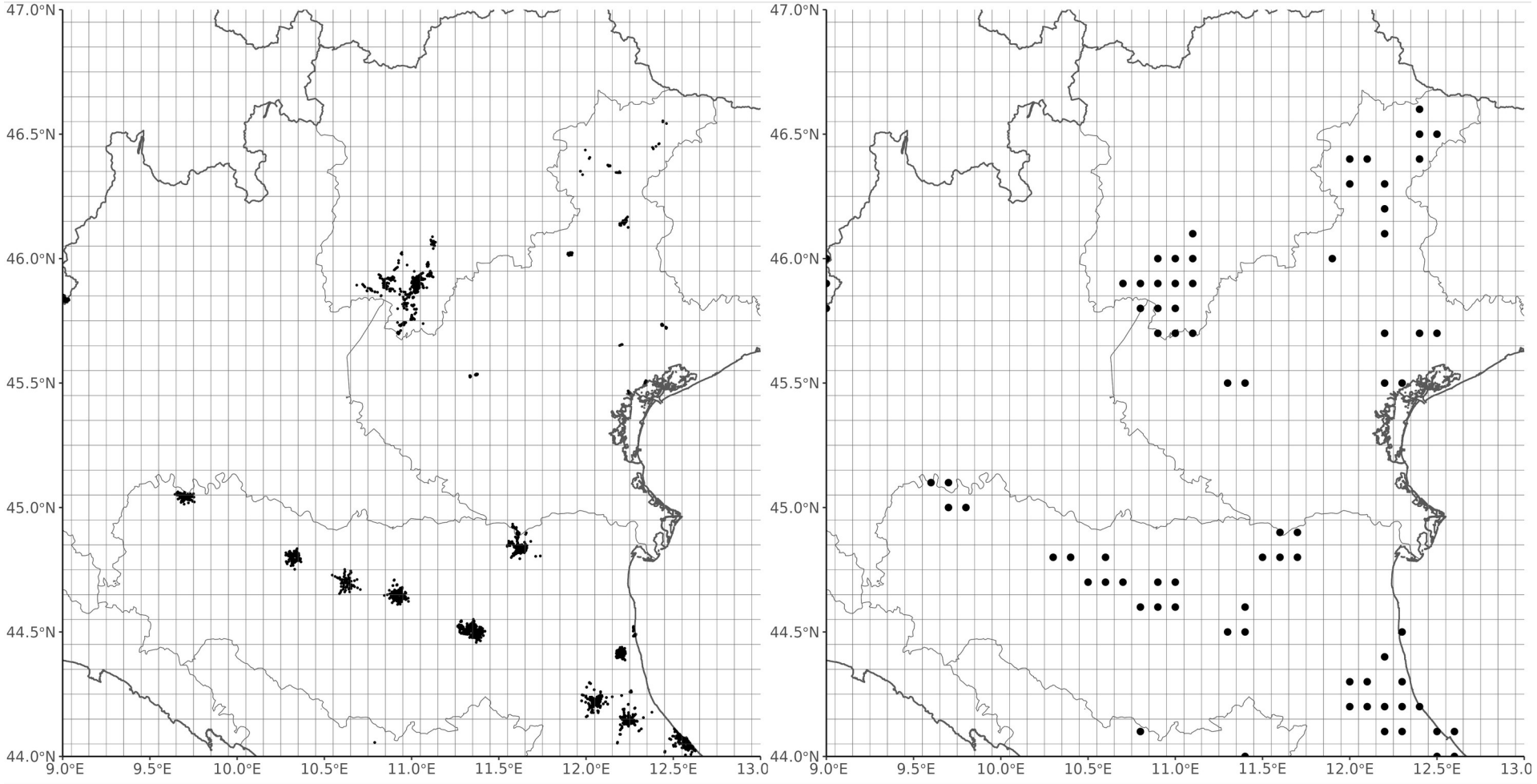


Data standardization

Ovitraps aggregated within 9 × 9 km grid cells by calculating median values.



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Final output

The database

Output variable: weekly median number of observed eggs over a cell grid of 9x9km

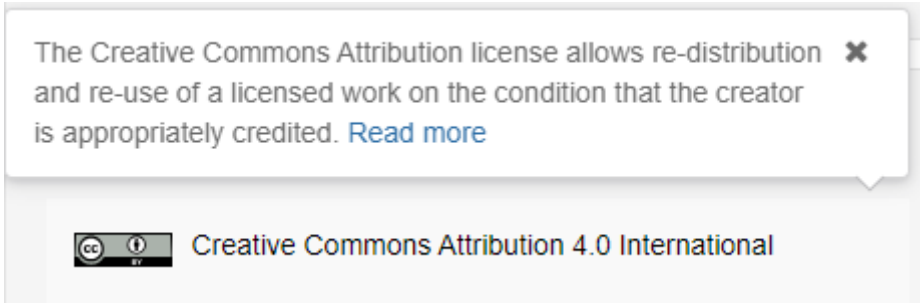
150 aggregated ovitraps

ID	year	week	date	value	Country	Region	longitude	latitude	Institute	ntact_pers	ct_person_	OI_websit	trap_type	volume	substrate	cide_prese	rvicide_ty	nonical_na	kingdom	phylum	class	order	family	genus	species	life_stage	EPSG
3797	2019	18	2019-05-04		Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	19	2019-05-11		Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	20	2019-05-18		Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	21	2019-05-25		Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	22	2019-06-01		Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	23	2019-06-08		Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	24	2019-06-15		Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	25	2019-06-22	64	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	26	2019-06-29	70	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	27	2019-07-06	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	28	2019-07-13	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	29	2019-07-20	20	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	30	2019-07-27	19	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	31	2019-08-03	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	32	2019-08-10	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	33	2019-08-17	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	34	2019-08-24	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	35	2019-08-31	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	36	2019-09-07	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326
3797	2019	37	2019-09-14	0	Italy	Veneto	12	46.4	Istituto Zo	Fabrizio M	fmontarsi	fmontarsi	ovitrap		masonite	Yes	B.t.i.	Tiger mos	Animalia	Arthropod	Insecta	Diptera	Culicidae	Aedes	albopictu	eggs	4326

Currently more than 42,000 observations.

The database

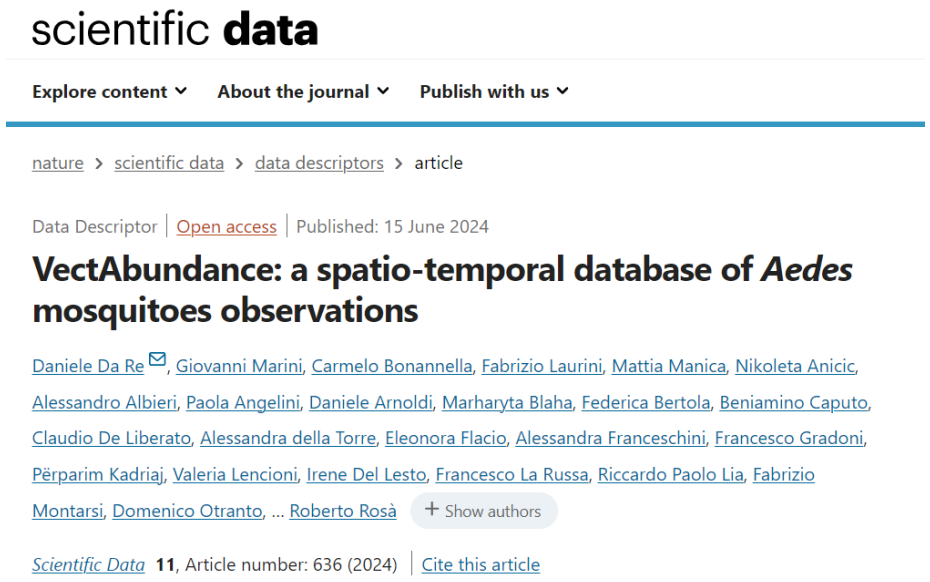
Freely accessible and downloadble from https://zenodo.org/doi/10.5281/zenodo.10435687



Future developments

- Integrating years 2023-2024 and onwards
- Expanding spatial coverage (if you have data please consider sharing them)
- Adding other species
- Anything else?

Thank you!



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VectAbundance: a spatio-temporal database of *Aedes* mosquitoes observations

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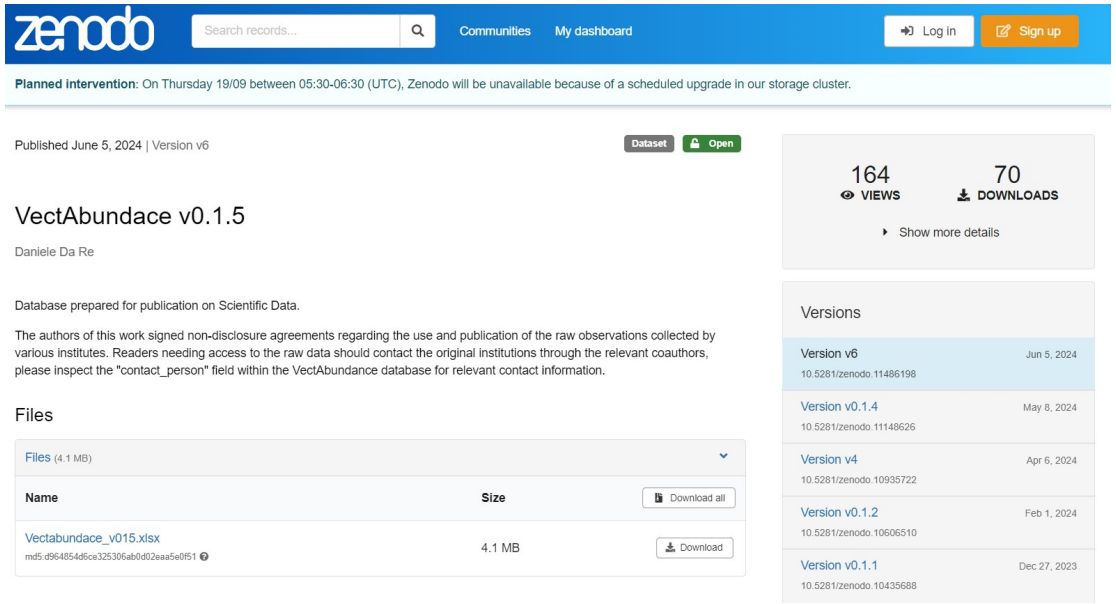

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Planned intervention: On Thursday 19/09 between 05:30-06:30 (UTC), Zenodo will be unavailable because of a scheduled upgrade in our storage cluster.

Published June 5, 2024 | Version v6 Dataset Open

VectAbundace v0.1.5

Daniele Da Re

Database prepared for publication on Scientific Data.

The authors of this work signed non-disclosure agreements regarding the use and publication of the raw observations collected by various institutes. Readers needing access to the raw data should contact the original institutions through the relevant coauthors, please inspect the "contact_person" field within the VectAbundance database for relevant contact information.

Files

Files (4.1 MB)

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Versions

Version	Date	DOI
Version v6	Jun 5, 2024	10.5281/zenodo.11486198
Version v0.1.4	May 8, 2024	10.5281/zenodo.11148626
Version v4	Apr 6, 2024	10.5281/zenodo.10935722
Version v0.1.2	Feb 1, 2024	10.5281/zenodo.10606510
Version v0.1.1	Dec 27, 2023	10.5281/zenodo.10435688