

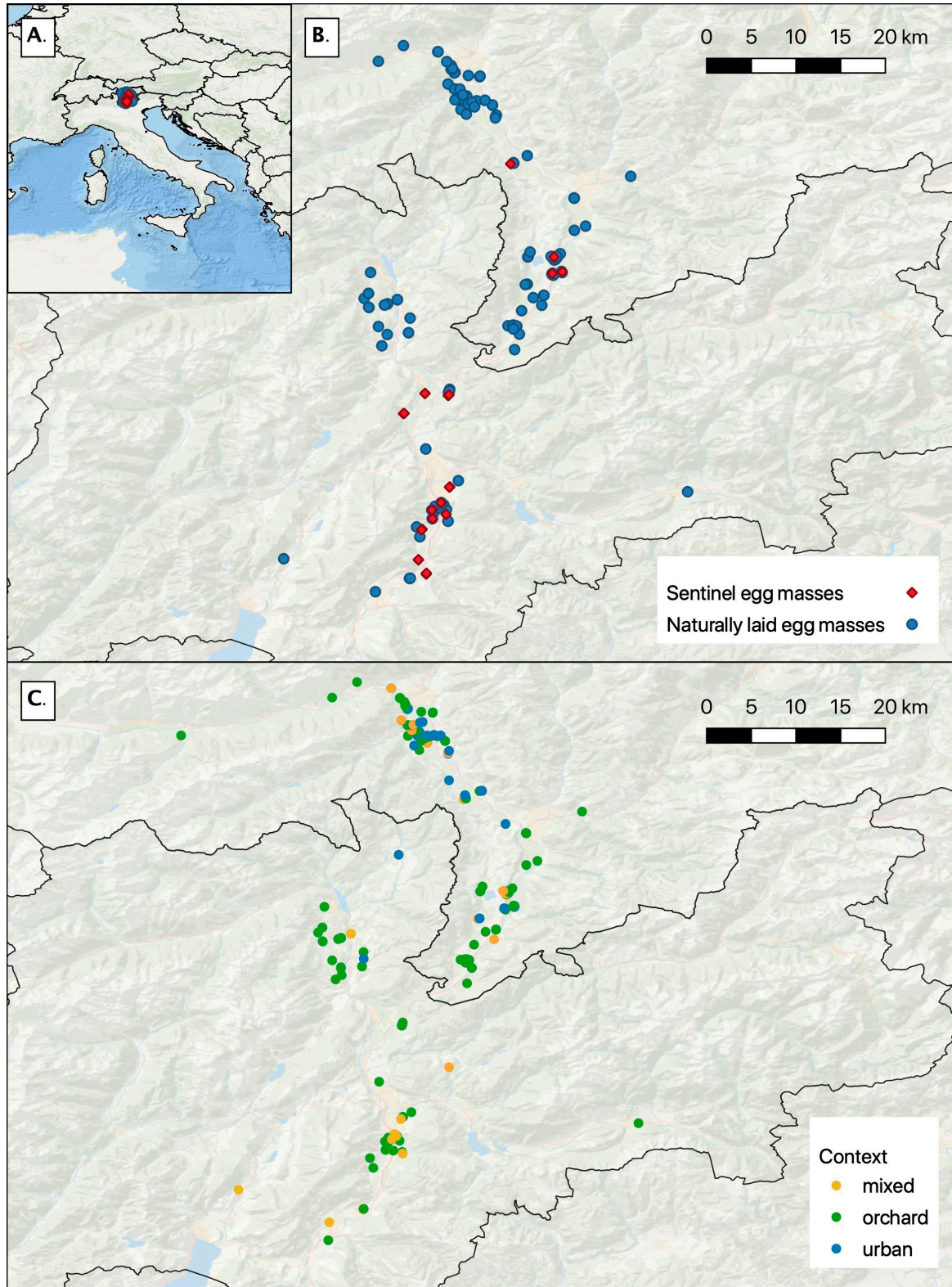


Figure S1. Study area map: **A.** location of the study area in Italy; **B.** distribution of the exposed sentinel egg masses and the location of the collected egg masses; **C.** context where the naturally laid egg masses were collected.

Table S1. Information on samples of *Trissolcus mitsukurii* and *Trissolcus japonicus* obtained in this study and corresponding CO1 GenBank Accession numbers.

Sample ID	Species	Host Plant	Locality in Trentino-Alto Adige in Italy	GPS Coordinates	Collection Date (day/month/year)	CO1 Genbank Accession Number
TSP361	<i>Trissolcus mitsukurii</i>	<i>Prunus spinosa</i>	Trento	11,1378914 & 46,0578638	26/07/2019	MT671789
TSP362	<i>Trissolcus mitsukurii</i>	<i>Prunus spinosa</i>	Trento	11,1378914 & 46,0578638	26/07/2019	MT671790
TSP369	<i>Trissolcus mitsukurii</i>	<i>Diospyros kaki</i>	Trento	11,1378914 & 46,0578638	12/09/2019	MT671791
TSP370	<i>Trissolcus mitsukurii</i>	<i>Diospyros kaki</i>	Trento	11,1378914 & 46,0578638	12/09/2019	MT671792
TSP377	<i>Trissolcus mitsukurii</i>	<i>Diospyros kaki</i>	Trento	11,1378914 & 46,0578638	12/09/2019	MT671793
TSP378	<i>Trissolcus mitsukurii</i>	<i>Diospyros kaki</i>	Trento	11,1378914 & 46,0578638	12/09/2019	MT671794
TSP383	<i>Trissolcus mitsukurii</i>	<i>Diospyros kaki</i>	Trento	11,1378914 & 46,0578638	12/09/2019	MT671795
TSP384	<i>Trissolcus mitsukurii</i>	<i>Diospyros kaki</i>	Trento	11,1378914 & 46,0578638	12/09/2019	MT671796
TSP392	<i>Trissolcus mitsukurii</i>	<i>Malus domestica</i>	Lidorno	11,1291574 & 46,0301142	14/10/2019	MT671797
TSP393	<i>Trissolcus mitsukurii</i>	<i>Malus domestica</i>	Lidorno	11,1291574 & 46,0301142	14/10/2019	MT671798
TJ757	<i>Trissolcus japonicus</i>	<i>Acer campestre</i>	Trento	11,1257637 & 46,0327972	01/08/2019	MT671799
TJ758	<i>Trissolcus japonicus</i>	<i>Acer campestre</i>	Trento	11,1257637 & 46,0327972	01/08/2019	MT671800
TJ763	<i>Trissolcus japonicus</i>	<i>Prunus persica</i>	Romagnano	11,1122675 & 46,0222527	12/09/2019	MT671801
TJ764	<i>Trissolcus japonicus</i>	<i>Prunus persica</i>	Romagnano	11,1122675 & 46,0222527	12/09/2019	MT671802
TJ772	<i>Trissolcus japonicus</i>	<i>Acer campestre</i>	Trento	11,1257637 & 46,0327972	12/09/2019	MT671803
TJ773	<i>Trissolcus japonicus</i>	<i>Acer campestre</i>	Trento	11,1257637 & 46,0327972	12/09/2019	MT671804

Table S2. Collecting period and parasitism rate of naturally occurring *H. halys* eggs according to the host plant. WN (week number), EM (number of egg masses), PEM (number of parasitized egg masses), PE (parasitized eggs), %P (parasitism rate).

Host plant	WN	EM	PEM	PE	%P
<i>Acer campestre</i> L.	26–34	4	2	8	7.77
<i>Acer negundo</i> L.	25–39	90	31	515	22.16
<i>Acer platanoides</i> L.	30–32	20	8	113	21.94
<i>Acer pseudoplatanus</i> L.	24–39	151	60	928	23.73
<i>Actinidia deliciosa</i> (A.Chev.) C.F.Liang & A.R.Ferguson	24–36	35	0	0	0
<i>Ailanthus altissima</i> (Mill.) Swingle	23–38	12	4	61	19.61
<i>Cannabis sativa</i> L.	34–37	9	1	3	1.31
<i>Cornus mas</i> L.	24–31	2	0	0	0
<i>Cornus sanguinea</i> L.	34	4	0	0	0
<i>Corylus avellana</i> L.	31–38	6	3	81	53.29
<i>Crataegus monogyna</i> Jacq.	27–31	3	1	9	10.98
<i>Diospyros kaki</i> L.f.	39	1	1	26	92.86
<i>Ficus carica</i> L.	35	2	0	0	0
<i>Fraxinus excelsior</i> L.	27–38	6	1	17	13.08
<i>Hedera helix</i> L.	25–31	4	3	66	58.93
<i>Helianthus annuus</i> L.	31–36	6	4	77	52.03
<i>Juglans regia</i> L.	36	1	1	18	75
<i>Laburnum anagyroides</i> Medik.	31	4	0	0	0
<i>Lactuca sativa</i> L.	35	1	0	0	0
<i>Liquidambar</i> sp. L.	32	1	1	28	100
<i>Malus domestica</i> (Suckow) Borkh.	24–42	120	15	261	8.03
<i>Ocimum basilicum</i> L.	35	1	0	0	0
<i>Paulownia tomentosa</i> (Thunb.) Steud.	24–31	7	0	0	0
<i>Pelargonium zonale</i> (L.) L'Hér.	40	1	0	0	0
<i>Phaseolus vulgaris</i> L.	32	6	2	50	30.3
<i>Prunus armeniaca</i> L.	25–37	3	1	23	30.26
<i>Prunus avium</i> (L.) L.	24–26	12	0	0	0
<i>Prunus cerasus</i> L.	25	1	0	0	0
<i>Prunus domestica</i> L.	32–37	2	2	22	40
<i>Prunus padus</i> L.	26–34	9	1	1	0.42
<i>Prunus persica</i> (L.) Batsch	24–33	7	2	10	5.18
<i>Prunus spinosa</i> L.	24–31	10	1	26	9.85
<i>Punica granatum</i> L.	34	1	1	25	92.59
<i>Sambucus nigra</i> L.	34	1	1	20	71.43
<i>Solanum lycopersicum</i> L.	35	4	1	2	1.9
<i>Sorbus aria</i> (L.) Crantz	24–28	8	4	46	21.2
<i>Syringa</i> sp. L.	34	2	2	33	60
<i>Tilia platyphyllos</i> Scop.	23–34	5	2	32	23.19
<i>Viburnum lantana</i> L.	34	4	1	18	18.95
<i>Vitis vinifera</i> L.	26–40	14	0	0	0
<i>Ziziphus jujuba</i> Mill.	38	1	1	22	78.57
Total	23–42	581	158	2541	16.67

Table S3. Complete results of the GLMM analysis for egg parasitization for *Halyomorpha halys* egg masses, with logit link function showing the fixed effects of the best three models. Dev (deviance), Est (estimate), df (df residuals). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Model Formulation		AIC	BIC	LogLik	Deviance	df.resid
parasitized ~ plant + week n° + altitude + longitude + context + (1 district)		523.7	630.7	-236.9	473.7	508
Fixed effects:		Estimate	Std.	Error	z value	Pr(> z)
(Intercept)		-6.67E + 00	1.56E + 00	-4.283	1.84E - 05	***
Acer	<i>platanoides</i>	4.83E - 01	5.21E - 01	0.927	0.3538	
Acer	<i>pseudoplatanus</i>	-1.38E - 01	3.17E - 01	-0.437	0.6623	
Actinidia	<i>deliciosa</i>	-2.12E + 01	1.35E + 04	-0.002	0.9987	
Ailanthus	<i>altissima</i>	2.24E - 01	9.07E - 01	0.246	0.8053	
Cannabis	<i>sativa</i>	-1.77E + 00	1.53E + 00	-1.16	0.246	
Corylus	<i>avellana</i>	3.15E - 01	8.86E - 01	0.356	0.7221	
Fraxinus	<i>excelsior</i>	-5.45E - 01	1.17E + 00	-0.466	0.6412	
Helianthus	<i>annuus</i>	1.22E + 00	1.20E + 00	1.011	0.3122	
Malus	<i>domestica</i>	-1.76E + 00	1.15E + 00	-1.534	0.125	
Paulownia	<i>tomentosa</i>	-2.30E + 01	5.89E + 04	0	0.9997	
Phaseolus	<i>vulgaris</i>	-1.50E - 01	1.41E + 00	-0.107	0.9149	
Prunus	<i>avium</i>	-2.45E + 01	1.15E + 05	0	0.9998	
Prunus	<i>padus</i>	-1.03E + 00	1.18E + 00	-0.877	0.3806	
Prunus	<i>persica</i>	-1.05E + 00	1.54E + 00	-0.679	0.4972	
Prunus	<i>spinosa</i>	-2.25E - 01	1.55E + 00	-0.145	0.8843	
Sorbus	<i>aria</i>	1.87E + 00	1.32E + 00	1.413	0.1576	
Tilia	<i>platyphyllos</i>	-2.79E - 01	1.21E + 00	-0.231	0.8175	
Vitis	<i>vinifera</i>	-2.32E + 01	4.76E + 04	0	0.9996	
	week number	1.54E - 01	3.27E - 02	4.713	2.44E - 06	***
altitude		3.96E - 03	2.13E - 03	1.862	0.0626	.
	Longitude	-2.32E - 04	6.07E - 04	-0.381	0.7028	
	context semi-natural	3.37E + 01	1.02E + 07	0	1	
	context urban	7.64E - 02	1.05E + 00	0.072	0.9422	
Model formulation		AIC	BIC	logLik	deviance	df.resid
parasitized ~ plant + week n° + plant * week n° + altitude + longitude + context + (1 district)		518.4	698.1	-217.2	434.4	491
Fixed effects:		Estimate	Std.	Error	z value	Pr(> z)
(Intercept)		-1.53E + 01	2.96E + 00	-5.176	2.27E - 07	***
Acer	<i>platanoides</i>	-1.08E + 01	1.77E + 01	-0.612	0.54022	
Acer	<i>pseudoplatanus</i>	1.11E + 01	2.93E + 00	3.799	0.00015	***
Actinidia	<i>deliciosa</i>	-1.63E + 01	1.82E + 06	0	0.99999	
Ailanthus	<i>altissima</i>	1.07E + 01	4.82E + 00	2.217	0.0266	*
Cannabis	<i>sativa</i>	-6.51E + 02	2.41E + 05	-0.003	0.99785	
Corylus	<i>avellana</i>	-2.16E + 02	1.66E + 05	-0.001	0.99896	
Fraxinus	<i>excelsior</i>	9.95E + 00	8.00E + 00	1.243	0.21387	
Helianthus	<i>annuus</i>	4.96E + 01	2.55E + 01	1.951	0.0511	.
Malus	<i>domestica</i>	5.67E + 00	5.70E + 00	0.993	0.32056	
Paulownia	<i>tomentosa</i>	-1.11E + 01	9.37E + 05	0	0.99999	
Phaseolus	<i>vulgaris</i>	1.39E + 00	1.75E + 00	0.797	0.4256	
Prunus	<i>avium</i>	6.14E + 00	2.78E + 06	0	1	
Prunus	<i>padus</i>	5.55E + 00	2.31E + 01	0.24	0.80999	
Prunus	<i>persica</i>	-4.96E + 02	1.90E + 05	-0.003	0.99791	
Prunus	<i>spinosa</i>	2.37E + 02	6.80E + 04	0.003	0.99721	
Sorbus	<i>aria</i>	2.49E + 01	1.27E + 01	1.964	0.04952	*
Tilia	<i>platyphyllos</i>	-1.80E + 02	8.85E + 04	-0.002	0.99838	
Vitis	<i>vinifera</i>	-1.20E + 01	1.42E + 06	0	0.99999	
	week number	3.75E - 01	7.63E - 02	4.908	9.21E - 07	***
altitude		4.13E - 03	2.70E - 03	1.529	0.12635	

	Longitudine	-1.75E - 04	7.54E - 04	-0.232	0.81655	
	context semi-natural	3.75E + 01	4.93E + 07	0	1	
	context urban	1.51E + 00	1.45E + 00	1.044	0.2966	
Acer	<i>platanoides</i> *week number	3.71E - 01	5.63E - 01	0.659	0.51002	
Acer	<i>pseudoplatanus</i> *week number	-3.42E - 01	8.75E - 02	-3.904	9.47E - 05	***
Actinidia	<i>deliciosa</i> *week number	-3.41E - 01	6.69E + 04	0	1	
Ailanthus	<i>altissima</i> *week number	-3.14E - 01	1.56E - 01	-2.012	0.04426	*
Cannabis	<i>sativa</i> *week number	1.76E + 01	6.52E + 03	0.003	0.99785	
Corylus	<i>avellana</i> *week number	6.37E + 00	4.88E + 03	0.001	0.99896	
Fraxinus	<i>excelsior</i> *week number	-3.29E - 01	2.63E - 01	-1.253	0.21025	
Helianthus	<i>annuus</i> *week number	-1.46E + 00	7.66E - 01	-1.904	0.05695	.
Malus	<i>domestica</i> *week number	-1.86E - 01	1.56E - 01	-1.197	0.23142	
Paulownia	<i>tomentosa</i> *week number	-3.75E - 01	3.31E + 04	0	0.99999	
Prunus	<i>avium</i> *week number	-1.06E + 00	1.09E + 05	0	0.99999	
Prunus	<i>padus</i> *week number	-1.90E - 01	7.45E - 01	-0.255	0.79893	
Prunus	<i>persica</i> *week number	1.51E + 01	5.74E + 03	0.003	0.99791	
Prunus	<i>spinosa</i> *week number	-9.65E + 00	2.83E + 03	-0.003	0.99728	
Sorbus	<i>aria</i> *week number	-7.64E - 01	4.68E - 01	-1.633	0.10257	
Tilia	<i>platyphyllos</i> *week number	5.84E + 00	2.84E + 03	0.002	0.99836	
Vitis	<i>vinifera</i> *week number	-3.76E - 01	4.66E + 04	0	0.99999	
Model formulation		AIC	BIC	logLik	deviance	df.resid
parasitized ~ plant * week n° + (1 district)		517.2	679.8	-220.6	441.2	495
Fixed effects:		Estimate	Std.	Error	z value	Pr(> z)
(Intercept)		-1.29E + 01	2.55E + 00	-5.054	4.33E - 07	***
Acer	<i>platanoides</i>	-1.12E + 01	1.76E + 01	-0.636	0.52448	
Acer	<i>pseudoplatanus</i>	1.10E + 01	2.92E + 00	3.771	0.00016	***
Actinidia	<i>deliciosa</i>	-1.53E + 01	1.40E + 06	0	0.99999	
Ailanthus	<i>altissima</i>	1.04E + 01	4.46E + 00	2.336	0.01952	*
Cannabis	<i>sativa</i>	-6.53E + 02	2.41E + 05	-0.003	0.99784	
Corylus	<i>avellana</i>	-2.20E + 02	1.66E + 05	-0.001	0.99895	
Fraxinus	<i>excelsior</i>	9.95E + 00	8.00E + 00	1.243	0.21388	
Helianthus	<i>annuus</i>	3.61E + 01	1.90E + 01	1.905	0.0568	.
Malus	<i>domestica</i>	7.62E + 00	4.93E + 00	1.545	0.12224	
Paulownia	<i>tomentosa</i>	-1.65E + 01	7.85E + 06	0	1	
Phaseolus	<i>vulgaris</i>	2.15E - 01	9.23E - 01	0.233	0.81576	
Prunus	<i>avium</i>	-1.24E + 01	2.78E + 06	0	1	
Prunus	<i>padus</i>	8.76E + 00	1.43E + 01	0.612	0.54071	
Prunus	<i>persica</i>	-5.13E + 02	1.87E + 05	-0.003	0.99781	
Prunus	<i>spinosa</i>	2.34E + 02	6.91E + 04	0.003	0.9973	
Sorbus	<i>aria</i>	2.31E + 01	1.26E + 01	1.836	0.06635	.
Tilia	<i>platyphyllos</i>	-1.82E + 02	9.00E + 04	-0.002	0.99839	
Vitis	<i>vinifera</i>	-1.34E + 01	1.28E + 06	0	0.99999	
	week number	3.75E - 01	7.63E - 02	4.908	9.21E - 07	***
Acer	<i>platanoides</i> *week number	3.85E - 01	5.62E - 01	0.684	0.49368	
Acer	<i>pseudoplatanus</i> *week number	-3.36E - 01	8.73E - 02	-3.848	0.00012	***
Actinidia	<i>deliciosa</i> *week number	-3.59E - 01	5.13E + 04	0	0.99999	
Ailanthus	<i>altissima</i> *week number	-3.13E - 01	1.46E - 01	-2.139	0.03245	*
Cannabis	<i>sativa</i> *week number	1.76E + 01	6.52E + 03	0.003	0.99785	
Corylus	<i>avellana</i> *week number	6.48E + 00	4.88E + 03	0.001	0.99894	
Fraxinus	<i>excelsior</i> *week number	-3.29E - 01	2.63E - 01	-1.253	0.21027	
Helianthus	<i>annuus</i> *week number	-1.06E + 00	5.77E - 01	-1.842	0.06548	.
Malus	<i>domestica</i> *week number	-2.79E - 01	1.44E - 01	-1.936	0.05284	.
Paulownia	<i>tomentosa</i> *week number	-3.75E - 01	2.77E + 05	0	1	
Prunus	<i>avium</i> *week number	-3.70E - 01	1.09E + 05	0	1	
Prunus	<i>padus</i> *week number	-3.08E - 01	4.60E - 01	-0.669	0.5035	
Prunus	<i>persica</i> *week number	1.55E + 01	5.66E + 03	0.003	0.99781	
Prunus	<i>spinosa</i> *week number	-9.58E + 00	2.88E + 03	-0.003	0.99735	

<i>Sorbus</i>	<i>aria</i> *week number	-7.58E - 01	4.68E - 01	-1.619	0.10549
<i>Tilia</i>	<i>platyphyllos</i> *week number	5.91E + 00	2.91E + 03	0.002	0.99838
<i>Vitis</i>	<i>vinifera</i> *week number	-3.76E - 01	4.21E + 04	0	0.99999

Table S4. Results of the quasi-Poisson regression model for the discovery efficiency of sentinel egg masses exposed directly and with cages. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Coefficients:	Estimate	Std. Error	T Value	Pr(> t)	
(Intercept)	-5.0236	0.616	-8.155	2.84E-15	***
Method: direct exposure	2.5427	0.6065	4.193	3.26E-05	***
Egg: fresh/frozen	0.316	0.4952	0.638	0.524	