

Supplementary Material:

Table S1. Area size (m²) of the study areas

Habitat type	Geographic region	Plot size
<u>Historical data</u>		
Fallow grassland, plot 1	Canton Zurich, Switzerl.	~1000 m ²
Fallow grassland, plot 2	Canton Zurich, Switzerl.	~1000 m ²
Fallow grassland, plot 3	Canton Zurich, Switzerl.	~1000 m ²
Fallow grassland, plot 4	Canton Zurich, Switzerl.	~1000 m ²
Shrubs	Canton Zurich, Switzerl.	~1000 m ²
Organic garden	Canton Zurich, Switzerl.	450 m ²
Glasshouses Botanical Garden Bern	Canton Bern, Switzerl.	965 m ²
Fallow grassland	Germany	4 x 625 m ²
Fallow grassland	Germany	90 m ²
Fallow grassland	France	3300 m ²
Hedgerow/grassland	France	~400 m ² *
Hedgerow	Italy	2000 m ²
Pine stand	Poland	100 m ²
Clearing-forest ecotone	Poland	100 m ²
Scotch pine wood	Netherland	157.5 m ² **
Oak wood	Netherland	17.5 m ²
Oak stand	UK	2500 m ²
Heathland	UK	1450 m ²
<u>Present-day data (2019)</u>		
Forest road, Degersheim	Canton St. Gallen.	1000 m x 1 m
Suburb, Höneggerberg	Canton Zurich	1000 m x 1 m
Suburb, Zürichberg	Canton Zurich	1000 m x 1 m
Suburb, Rheinfelden	Canton Aargau	1000 m x 1 m
Hedgerow + shrubs along a river bank, Oberengstringen	Canton Zurich,	1000 m x 1 m
Forest edge + suburb, Arlesheim	Canton Baselland	500 m x 1 m
Forest edge, Münchenstein	Canton Baselland	500 m x 1 m
Forest road, Leymen	Alsace, France***	500 m x 1 m
Organic garden + shrubs, Dornach	Canton Solothurn	500 m x 1 m
Graveyard shrubs, Oberwil	Canton Baselland	500 m x 1 m
Forest road, Reinacherheide	Canton Baselland	200 m x 1 m
Forest edge, Bottmingen	Canton Baselland	200 m x 1 m
Forest edge, Rheinach	Canton Baselland	200 m x 1 m
Graveyard shrubs, Binningen	Canton Baselland	200 m x 1 m
Public park, Riehen	Canton Basel	200 m x 1 m
Hedgerow, Reinach	Canton Baselland	200 m x 1 m
Hedgerow, Schönenbuch	Canton Baselland	200 m x 1 m
Hedgerow + reedbelt, Sempach	Canton Luzern	200 m x 1 m
Organic garden, Flawil	Canton St. Gallen	800 m ²
Organic garden, Himmelried	Canton Solothurn	330 m ²

Additional information to Table S1

* Roughly estimated based on information (i.e., map of web distribution) found in Le Berre, M.; Ramousse, R.; Le Guelte, L. Eco-éthologie des Argiopidae: 1. Evolution temporelle d'une population d'*Araneus diadematus* Clerck dans son milieu naturel. *Atti. Soc. Toscana Sci. Nat. P. V. Mem. Ser. B* **1981**, *88*, 72-83.

** $20.5 \text{ ind}/(9 \times 17.5 \text{ m}^2) = 20.5 \text{ ind}/157.5 \text{ m}^2 = 0.130 \text{ ind}/\text{m}^2$

*** Location in France, only 1.5 km from the Swiss border (Basel region)

Table S2. Mean number of prey per web counted in mid-afternoon as a proxy for the daily prey capture rate of large orb-weaving spiders in western European habitats: Historical values vs. present day value. References found in the paper.

Spider species	Habitat type	Year of investigation	\bar{x} prey web ⁻¹	Reference
<u>Historical data:</u>				
<i>Araneus diadematus</i>	Grassland, September	1979	13.5	Nyffeler 1982
<i>Araneus diadematus</i>	Grassland, August	1990	4.3	Malt 1996
<i>Araneus diadematus</i>	Grassland, September	1990	9.2	Malt 1996
<i>Araneus diadematus</i>	Maize field margins, July/August	2003	13.5	Ludy 2007
<i>Araneus quadratus</i>	Grassland, July	1979	21	Nyffeler 1982
<i>Araneus quadratus</i>	Grassland, August	1979	14	Nyffeler 1982
<i>Araneus quadratus</i>	Grassland, September	1979	20	Nyffeler 1982
<i>Araneus quadratus</i>	Grassland, August	1990	7.3	Malt 1996
<i>Araneus quadratus</i>	Grassland, September	1990	36.4	Malt 1996
<i>Araneus marmoreus</i>	Grassland	1981	14.1	Pasquet 1984
<i>Argiope bruennichi</i>	Grassland	1981	4.3	Pasquet 1984
<i>Argiope bruennichi</i>	Field margin, August/September	1976	13.2	Nyffeler & Benz 1978
<i>Argiope bruennichi</i>	Maize field margins, July/August	2003	4.9	Ludy 2007
<i>Argiope bruennichi</i>	Grassland, August	1990	6.5	Malt 1996
<i>Argiope bruennichi</i>	Grassland, September	1990	5.9	Malt 1996
<i>Argiope bruennichi</i>	Grassland, August	1979	10	Nyffeler 1982
<i>Argiope bruennichi</i>	Grassland, September	1979	10	Nyffeler 1982
<i>Larinioides cornutus</i>	Grassland, June/July	1979	18	Nyffeler 1982
<i>Larinioides cornutus</i>	Rye field	1976	15	Nyffeler 1982
<i>Larinioides cornutus</i>	Grassland, May/June	1961	6.7	Kajak 1965
Overall mean			12.39	
Median			11.60	
IQR			6.55-14.77	
<u>Present-day data:</u>				
<i>Araneus diadematus</i>	Diverse habitats August/September		1.00	This paper
Overall mean			2.58	
Median			1.00	
IQR			0.75-2.50	