

## **Aesthetic impact of *Brigittea civica* webs on historical buildings in the down-town district of Turin (NW Italy)**

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*Brigittea civica* (Lucas) (Araneae: Dictynidae) is a synanthropic species, inhabiting urban environments and contaminating the wall surfaces of buildings with its discoidal web. Large aggregations of webs impact significantly the aesthetics of buildings, especially historical ones. However, the ecological factors determining habitat selection in these spiders are as yet poorly described. As part of a research project on urban decay funded by Compagnia di San Paolo, we studied the environmental factors driving the proliferation of *B. civica* webs in the arcades of the historical down-town district of Turin (NW Italy). We selected seventy squared sampling plots on the arcades' ceilings and, by means of photographic analysis, estimated the percentage of *B. civica* webs. In parallel, we collected several potential explanatory variables driving the density of webs—light intensity at night, temperature, distance from the main light sources and distance from the river. Regression analysis indicated a significant increase in the percentage of webs in those plots characterized by higher illuminance, with a major effect wherever the main source of light was a lamp post (incandescent light) rather than a light-emitting diode (LED) lamp. In fact, data in the literature suggest that incandescent light has a stronger attraction effect on nocturnal arthropods, which represent potential prey items for the species. We suggest that light is one of the major determinants of the increase density of *B. civica* webs. Future studies should investigate the effect of the different types of urban illumination systems—LED versus incandescent light—under laboratory conditions, in order to support conservation programs aimed at preserving the aesthetic appearance of historical buildings.

**Key words:** determinant, ecological factors, habitat, synathrope.