

Publication

Asymmetry in orb-webs : an adaptation to web building costs?

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ID 83619 Author(s) Coslovsky, Michael; Zschokke, Samuel Author(s) at UniBasel Zschokke, Samuel ; Year 2009 Title Asymmetry in orb-webs : an adaptation to web building costs? Journal Journal of insect behavior Volume 22 Number 1 Pages / Article-Number 29-38

Keywords Araneus diadematus, up-down asymmetry, gravity, optimal foraging, spider web Orb-web spiders build vertically asymmetric webs, in which the lower part is larger than the upper part. One hypothesis explaining this asymmetry suggests that the spiderís mass imposes higher building costs in the upper part of the web, causing the spider to reduce this part of the web. We tested this hypothesis by assessing building costs of different parts of the web. We found that the specific time-cost of building (i.e. the time required to build a certain length of silk) differed between the two parts of the web and that the difference in time-costs influenced web asymmetry. Contrary to predictions, however, building costs were larger in the lower part of the web, suggesting that additional factors affect the spiderís decisions while building the web, which are likely to be prey-capture considerations.

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