**Running head.** Linking modularity and conspicuous asymmetry

**Authors.** Samuel Ginot1,2, Simon Sommerfeld1, Alexander Blanke1

1Bonner Institut für Organismische Biologie, Universität Bonn, Germany.

2Corresponding author.

Email: ginotsam@gmail.com.

Mailing adress: An der Immenburg 1, 53121 Bonn, Germany.

Author contributions. SG: Design, data acquisition, analysis, first draft, review and proofing. SS: Design, data acquisition, review and proofing. AB: Funding, acquisition of materials, design, review and proofing.

Acknowledgements. We thank the current and former members of our institute especially C. Edel, P. Rühr, M. Relota, and C. Wallnisch for technical and methodological support and discussions.

Funding. This work received support from the European Research Council under grant agreement no. 754290 and the German Research Foundation under grant agreement number BL 1355/4-1 awarded to AB

**Conflict of interest.** The authors declare no conflict of interest.

Data availability. Landmark data is available as TPS files, as well as other raw data and R code on Github, at https://github.com/sginot/asym-real. Original 3D reconstructions of grasshopper heads are available on demand from the corresponding author, or at the Bonn Net repository.