

List of publications – Dr Thomas Hesselberg

Scientific (peer-reviewed) papers

30. Pimentel da Silva, G. D. and **Hesselberg, T.** (2020) A review of the use of black soldier fly larvae (*Hermitia illucens*) to compost organic waste in tropical regions. *Neotropical Entomology* 49, 151-162.
29. Gardner, E., **Hesselberg, T.**, Grabowska-Zhang, A. and Hughes, J. (2019). The effect of woodland area on avian community composition in a fragmented southern UK landscape and associated management recommendations. *Bird Study* 66, 293-305.
28. **Hesselberg, T.** and Simonsen, D. (2019). A comparison of morphology and web geometry between hypogean and epigean species of *Metellina* orb spiders (family Tetragnathidae). *Subterranean Biology* 32, 1-13.
27. **Hesselberg, T.**, Simonsen, D. and Juan, C. (2019). Do cave orb spiders show unique behavioural adaptations to subterranean life? A review of the evidence. *Behaviour* 156, 969-996.
26. Njovu, H. K., Kisingo, A. W., **Hesselberg, T.** and Eustace, A. (2019). The spatial and temporal distribution of mammal roadkills in the Kwakuchinja Wildlife Corridor in Tanzania. *African Journal of Ecology* 57, 423-428
25. Butt, A., Quaret-ul-Ain, Rehman, K., Khan, M. X. and **Hesselberg, T.** (2018). Bioaccumulation of Cadmium, Lead and Zinc in agriculture based insect food chains. *Environmental Monitoring and Assessment* 190, 698.
24. Tew, N. and **Hesselberg, T.** (2018). Web asymmetry in the tetragnathid orb spider *Metellina menzei* (Blackwell 1869) is determined by web inclination and web size. *Journal of Arachnology* 46, 370-372.
23. Hart, A., **Hesselberg, T.**, Nesbit, R. and Goodenough, A. (2018). The spatial distribution and environmental triggers of ant mating flights: using citizen-science data to reveal national patterns. *Ecography* 41, 877-888.
22. Tew, N. and **Hesselberg, T.** (2017). The effect of wind exposure on the web characteristics of a tetragnathid orb spider. *Journal of Insect Behavior* 33, 273-286.
21. Chowdbury, S., **Hesselberg, T.**, Böhm, M., Islam, M. and Aich, U. (2017). Butterfly diversity in a tropical urban habitat (Lepidoptera: Papilionoidea). *Oriental Insects* 51, 417-430.
20. Lenau, T. and **Hesselberg, T.** (2015). Dry sanitation concepts with inspiration from nature. *Journal of Water, Sanitation and Hygiene for Development* 5, 330-335.
19. Tew, E. R., Adamson, A. and **Hesselberg, T.** (2015). The web-repair behaviour of an orb-spider. *Animal Behaviour* 103, 137-146.
18. **Hesselberg, T.** (2015). Exploration behaviour and behavioural flexibility in orb-web spiders: a review. *Current Zoology*. 61, 313-327.
17. **Hesselberg, T.** (2014). The mechanism behind plasticity of web-building behavior in an orb spider facing spatial constraints. *Journal of Arachnology* 42, 311-314.
16. Chen, F., **Hesselberg, T.**, Porter, D. and Vollrath, F. (2013). The impact behaviour of silk cocoons. *Journal of Experimental Biology* 216, 2648-2657.
15. **Hesselberg, T.** (2013). Web-building flexibility differs in two spatially constrained orb spiders. *Journal of Insect Behavior* 26, 283-303.

14. **Hesselberg, T.** and Vollrath, F. (2012). The mechanical properties of the non-sticky spiral in *Nephila* orb webs (Araneae, Nephilidae). *Journal of Experimental Biology* 215, 3362-3369.
13. Eberhard, W. G. and **Hesselberg, T.** (2012). Cues that spiders (Araneae: Araneidae, Tetragnathidae) use to build orbs: lapses in attention to one set of cues due to dissonance with others? *Ethology* 118, 610-620.
12. Turner, J., Vollrath, F. and **Hesselberg, T.** (2011). Wind speed affects prey catching behaviour in an orb web spider. *Naturwissenschaften* 98, 1063-1067.
11. **Hesselberg, T.** (2010). Ontogenetic changes in web design in two orb-web spiders. *Ethology* 116, 535-545.
10. **Hesselberg, T.** and Triana, E. (2010). The web of the acacia orb-spider *Eustala illicita* (Araneae: Araneidae) with notes on its natural history. *Journal of Arachnology* 38, 21-26.
9. **Hesselberg, T.** and Lehmann, F.-O. (2009). The role of experience in flight behaviour of *Drosophila*. *Journal of Experimental Biology* 212, 3377-3386.
8. **Hesselberg, T.** (2009). Sensors and control systems for micro-air vehicles: lessons from flies. *Sensor Review* 29, 120-126.
7. **Hesselberg, T.** and Lehmann, F.-O. (2007). Turning behaviour depends on frictional damping in the fruit fly *Drosophila*. *Journal of Experimental Biology* 210, 3419-3434.
6. **Hesselberg, T.** (2007). Biomimetics and the case of the remarkable ragworms. *Naturwissenschaften* 94, 613-621.
5. **Hesselberg, T.** and Vincent, J.F.V. (2006). The function of parapodial setae in a nereidid polychaete moving on two different substrata. *Journal of Experimental Marine Biology and Ecology* 335, 235-244.
4. **Hesselberg, T.** and Vollrath, F. (2006). Temperature affects both web spider response time and prey escape speed. *Bulletin of the British arachnological Society* 13, 275-280.
3. **Hesselberg, T.** and Vincent, J.F.V. (2006). A comparative study of functional morphology of parapodia and setae in nereids (Polychaeta: Nereididae). *Animal Biology* 56, 103-120.
2. La Spina, G., **Hesselberg, T.**, Williams, J. and Vincent, J.F.V. (2005). A biomimetic approach to robot locomotion in unstructured and slippery environments. *Journal of Bionics Engineering* 2, 1-14.
1. **Hesselberg, T.** and Vollrath, F. (2004). The effects of neurotoxins on web-geometry and web-building behaviour in *Araneus diadematus* Cl. *Physiology & Behavior* 82, 519-529.

Other academic publications

8. Lenau, T. A., Metze, A.-L. and **Hesselberg, T.** (2018). Paradigms for biologically inspired design. Proc. SPIE 10593, Bioinspiration, Biomimetics, and Bioreplication VIII, 1059302; doi: 10.1117/12.2296560.
7. Lenau, T., **Hesselberg, T.**, Drakidis, A., Silva, P. and Gomes, S. (2017). Mosquito inspired medical needles (2017). Proc. SPIE Vol. 10162, Bioinspiration, Biomimetics, and Bioreplication 1016208 (April 2017). doi:10.1117/12.2261399.
6. **Hesselberg, T.** (2014) Animal Behaviour: An Introduction, Oxford University Department for Continuing Education in collaboration with TALL. Online course.
5. Lenau, T. A. and **Hesselberg, T.** (2014). Self-organisation and motion in plants. Proc. SPIE Vol. 9055. Bioinspiration, Biomimetics, and Bioreplication 90550F (March 8, 2014). Doi:10.1117/12.2045155.

4. Lenau, T. and **Hesselberg, T.** (2013). Biomimetic self-organisation and self-healing. In *Engineered Biomimicry* (Eds Lakhtakia, A. and Martin-Palma, R. J.) (pp. 333-358). Elsevier, Amsterdam.
3. **Hesselberg, T.** (2012) Data Analysis in Ecology, University of Oxford CPD Centre in collaboration with TALL. Online course.
2. **Hesselberg, T.** (2010). Notas sobre la capacidad de construir telas orbiculares en el laboratorio por arañas neotropicales. *Puente Biológico* 3, 101-109.
1. **Hesselberg, T.** (2006). Biomimetics: learning from nature. *Proceedings of the Bath Royal Literary & Scientific Institution* 9, 150-153.

Presentations at conferences and seminars

Includes poster and oral presentations at the following large conferences: the International Conference on Subterranean Biology in Aveiro (2018), the Association for the Study of Animal Behaviour's Winter Conference (2013), the Annual Meeting of the German Zoological Society (2011), the International Congress of Arachnology (2010), the Annual Meeting of the Society for Experimental Biology (2010, 2007 and 2005) as well as a number of smaller meetings, workshops and outreach events.

Invited talks and seminars at the following institutions: The University of the Balearic Islands (2018), The Royal Danish Academy of Sciences and Letters (2014), The Technical University of Denmark (2013), the Danish Technological Institute (2011), the Department of Zoology, University of Oxford (2010 and 2011), the Smithsonian Tropical Research Institute (2009) and the Department of Neurobiology, University of Ulm (2006).