

Supplementary Material

Bioluminescence in cephalopods: biodiversity, biogeography and research trends

Eve Otjacques^{1,2,3*}, Vasco Pissarra¹, Kathrin Bolstad⁴, José C. Xavier^{3,5}, Margaret McFall-Ngai², Rui Rosa¹

¹Laboratório Marítimo da Guia, Marine and Environmental Sciences Centre (MARE) and Aquatic Research Network (ARNET), Faculdade de Ciências, Universidade de Lisboa, Cascais, Portugal

²Division of Biosphere Sciences and Engineering, Church Laboratory, California Institute of Technology, Carnegie Institution for Science., Pasadena, CA, USA

³Department of Life Sciences, Marine and Environmental Sciences Centre (MARE) and Aquatic Research Network (ARNET), University of Coimbra, Coimbra, Portugal

⁴AUT Lab for Cephalopod Ecology & Systematics (ALCES), School of Science, Auckland University of Technology, Auckland, New Zealand

⁵British Antarctic Survey (BAS), Natural Environment Research Council (NERC), Cambridge, UK

⁶Departamento de Biologia Animal, Faculdade de Ciências, Universidade de Lisboa, Lisboa, Portugal

Supplementary Material 3. Method used for the Systematic Analysis, using the PRISMA approach.

The systematic analysis performed in this study was made following the PRISMA (Preferred Reporting Items for Systematic Reviews and MetaAnalyses) approach. The literature search was performed using the Web of Science and Scopus scientific databases, on October 11th, 2022. The search was conducted on the Title, Abstract and Keywords, using the following criteria: (Cephalopod* OR Bathyteuthid* OR Idiosepid* OR Myopsid* OR Oegopsid* OR Squid* OR Nautilid* OR Octopod* OR Sepiid* OR Spirulid* OR Vampyromorph*) AND (bioluminescen* OR light organ OR photophore*) for which the asterisk allows to include all derivatives of the keyword used (e.g. Cephalopod* also searches for Cephalopoda, Cephalopods). Moreover, the search was limited to the period between 1971 and 2020. Using these terms and timeframe, our search resulted in 296 records in the Scopus database and 582 in the Web of Science database, from which 618 records were further investigated, after the removal of duplicates (Figure S1). To understand the eligibility of these 618 records, the title and abstract of each study were scanned. 252 studies were considered out of scope, 37 were conference papers or abstract, 2 were editorial materials and 5 were a different publication types (e.g. note, survey). Moreover, 43 did not present an abstract, preventing us from analyzing the content of the study. Therefore, a total of 277 studies were maintained and included in the final analysis.

Figure S1. Flowchart explaining the literature analysis, using the PRISMA (Preferred Reporting Items for Systematic Reviews and MetaAnalyses) approach.

