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TITLE: Trophic compensation stabilizes marine primary producers exposed to artificial light at night

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ABSTRACT:

MEPS Marine Ecology Progress Series Contact the journal Facebook Twitter RSS Mailing List Subscribe to our mailing list via Mailchimp HomeLatest VolumeAbout the JournalEditorsTheme Sections MEPS 606:1-5 (2018) - DOI: <https://doi.org/10.3354/meps12769> FEATURE ARTICLE: NOTE Trophic compensation stabilizes marine primary producers exposed to artificial light at night E. Maggi*, L. Benedetti-Cecchi Dipartimento di Biologia, CoNISMa, Università di Pisa, via Derna 1, 56126 Pisa, Italy *Corresponding author: emaggi@biologia.unipi.it ABSTRACT: Artificial light at night (ALAN) is a widespread phenomenon along coastal areas. Despite increasing evidence of pervasive effects of ALAN on patterns of species distribution and abundance, the potential of this emerging threat to alter ecological processes in marine ecosystems has remained largely unexplored. Here, we show how exposure to white LED lighting, comparable to that experienced along local urbanized coasts, significantly enhanced the impact of grazing gastropods on epilithic microphytobenthos (MPB). ALAN increased both the photosynthetic biomass of MPB and the grazing pressure of gastropods, such that consumers compensated for the positive effect of night lighting on primary producers. Our results indicate that trophic interactions can provide a stabilizing compensatory mechanism against ALAN effects in natural food webs. KEY WORDS: Compensatory dynamics · Light pollution · ALAN · Trophic interactions · Marine food webs Full text in pdf format Information about this Feature Article Supplementary material NextCite this article as: Maggi E, Benedetti-Cecchi L (2018) Trophic compensation stabilizes marine primary producers exposed to artificial light at night. Mar Ecol Prog Ser 606:1-5. <https://doi.org/10.3354/meps12769> Export citation RSS - Facebook - Tweet - linkedIn Cited by Published in MEPS Vol. 606. Online publication date: November 15, 2018 Print ISSN: 0171-8630; Online ISSN: 1616-1599 Copyright © 2018 Inter-Research.

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