

Long-term and high-resolution time series datasets of vent species abundance from the Grotto hydrothermal edifice (Main Endeavour Field, Juan de Fuca Ridge)

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Abstract

Focused on vent ecology, the TEMPO-mini ecological observatory module is deployed on the active Grotto hydrothermal edifice (Main Endeavour Field, Juan de Fuca Ridge), selected as a target site for the deep-sea cabled observatory Ocean Networks Canada. To study long-term temporal dynamics of vent communities, the camera was programmed to record 20-min video sequences six times a day (02.00, 06.00, 10.00, 14.00, 18.00 and 22.00 UTC) with three zoom levels per sequence corresponding to 'large', 'medium' and 'fine' views. The camera was focused on a *Ridgeia piscesae* tubeworm assemblage harbouring a dense community of associated fauna. Temporal variation in the observed abundances of four visible taxa (Ammotheidae pycnogonids, Polynoidae polychaetes, Buccinidae gastropods and Zoarcidae eelpouts) was quantified using the large and medium views (see Figure). To avoid 'observer bias' among consecutive measurements, video sequences were analysed in random order. The first observation strategy had a fixed daily observation time set at 10.00 UTC encompassing two years from 20 June 2013 to 20 June 2015. The second observation strategy was designed to identify seasonal components of macrofaunal and environmental variability. All six observations (observation frequency of TEMPO-mini) were analysed during one summer (June 2014) and three winters (November 2014, December 2014 and January 2015) months. These specific time windows were selected to minimize the

amount of missing data generated by temporary shortcomings of the observatory and to maximize the presence of high-quality video imagery. Details on these observation methods and analyses conducted on a part of these datasets are published in Lelièvre et al. 2017 (DOI:10.1098/rspb.2016.2123 (<http://doi.org/10.1098/rspb.2016.2123>)).

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 (<https://creativecommons.org/licenses/by-nc/4.0/>)

Data

File

Size

Format

Processing

Access

Abundance VentSpecies TwoYears 1 obs/day
(<http://www.seanoe.org/data/00459/57113/data/59031.csv>)

18 KB

CSV (https://en.wikipedia.org/wiki/Comma-separated_values)

Quality controlled data

Open access

Abundance VentSpecies June2014 6 obs/day
(<http://www.seanoe.org/data/00459/57113/data/59036.csv>)

4 KB

CSV (https://en.wikipedia.org/wiki/Comma-separated_values)

Quality controlled data

Open access

Abundance VentSpecies November2014 6 obs/day
(<http://www.seanoe.org/data/00459/57113/data/59037.csv>)

4 KB

CSV (https://en.wikipedia.org/wiki/Comma-separated_values)

Quality controlled data

Open access

Abundance VentSpecies December2014 6obs/day
(<http://www.seanoe.org/data/00459/57113/data/59038.csv>)

4 KB

CSV (https://en.wikipedia.org/wiki/Comma-separated_values)

Quality controlled data

Open access

Abundance VentSpecies January2015 6obs/day
(<http://www.seanoe.org/data/00459/57113/data/59039.csv>)

4 KB

CSV (https://en.wikipedia.org/wiki/Comma-separated_values)

Quality controlled data

Open access

How to cite (javaScript:void(0);)

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(<https://doi.org/10.17882/57113>)

In addition to properly cite this dataset, it would be appreciated that the following work(s) be cited too, when using this dataset in a publication :

Lelievre Yann, Legendre Pierre, Matabos Marjolaine, Mihaly Steve, Lee Raymond W., Sarradin Pierre-Marie, Arango Claudia P., Sarrazin Jozee (2017). **Astronomical and atmospheric impacts on deep-sea hydrothermal vent invertebrates.**

Proceedings Of The Royal Society B-biological Sciences, 284(1852), 20162123 (1-10).

Publisher's official version : <https://doi.org/10.1098/rspb.2016.2123>

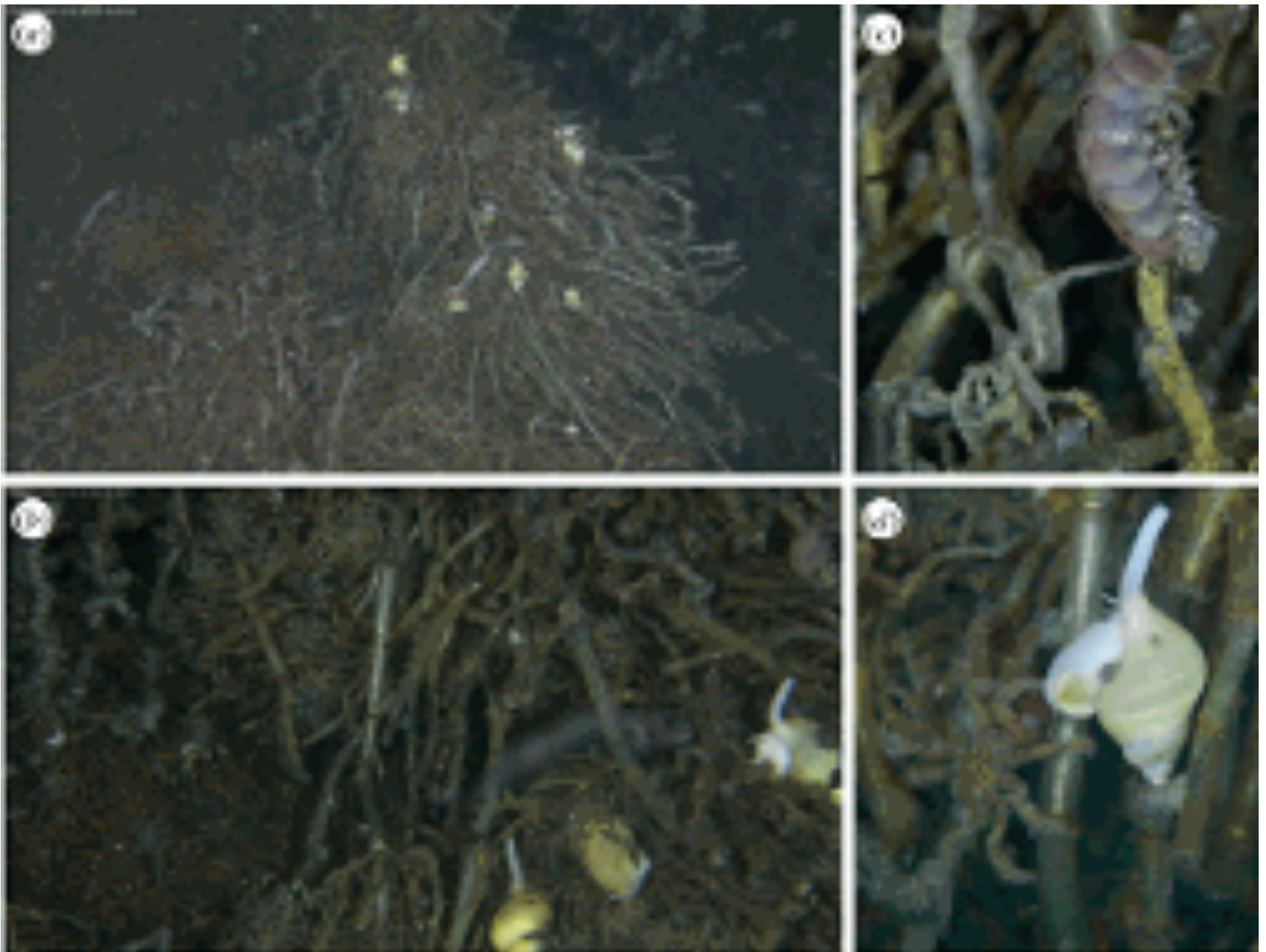
(<https://doi.org/10.1098/rspb.2016.2123>) , Open Access version :

<https://archimer.ifremer.fr/doc/00380/49122/>

(<https://archimer.ifremer.fr/doc/00380/49122/>)

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(<http://www.seanoe.org/data/00459/57113/illustration.gif>) The Ridgeia piscesae tubeworms assemblage and associated fauna as viewed by the TEMPO-mini ecological observatory module at 2196 m depth at the Grotto hydrothermal edifice (Main Endeavour Field, JdFR), with (a) large and (b) medium views. (c) Sericosura sp. pycnogonids and Polynoidea

polychaetes (*Branchinotogluma tunnicliffae*, *Lepidonotopodium piscosae* or *Levensteiniella kincaidi*) and (d) *Sericosura* sp. and the Buccinidae *Buccinum thermophilum* on the tubeworm assemblage. (<https://doi.org/10.1098/rspb.2016.2123>)

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TXT (<http://www.seanoe.org/data/00459/57113/export.txt>), RIS (<http://www.seanoe.org/data/00459/57113/export.ris>), XLS (<http://www.seanoe.org/data/00459/57113/export.xls>)

References

Lelievre Yann, Legendre Pierre, Matabos Marjolaine, Mihaly Steve, Lee Raymond W., Sarradin Pierre-Marie, Arango Claudia P., Sarrazin Jozee (2017). Astronomical and atmospheric impacts on deep-sea hydrothermal vent invertebrates. *Proceedings Of The Royal Society B-biological Sciences*, 284(1852), 20162123 (1-10). (<https://archimer.ifremer.fr/doc/00380/49122/>)

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