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Surprisingly diversified macrofauna in mobile gravels and pebbles from high-energy hydrodynamic environment of the 'Raz Blanchard' (English Channel)

Aurélie Foveau, Jean-Claude Dauvin

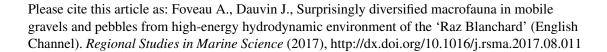
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#### **ACCEPTED MANUSCRIPT**

## 1 ORIGINAL ARTICLE

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- 3 Surprisingly diversified macrofauna in mobile gravels and pebbles from high-energy
- 4 hydrodynamic environment of the 'Raz Blanchard' (English Channel)

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6 Aurélie FOVEAU<sup>1,\*</sup> & Jean-Claude DAUVIN<sup>1</sup>

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- 8 Normandie Univ., UNICAEN, UNIROUEN, Laboratoire Morphodynamique Continentale et
- 9 Côtière, UMR CNRS 6143 M2C, 24, rue des Tilleuls, F-14000 Caen, France
- \*Corresponding author (present address): A. Foveau, Ifremer, Laboratoire Environnement
- Ressources Bretagne Nord, 38 Rue du Port Blanc, F-35800 Dinard, France, E-mail address:
- aurelie.foveau@ifremer.fr

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### 14 Highlights

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- 16 The Raz Blanchard is an area of high-energy hydrodynamics with a hard and irregular seabed.
- 17 The fauna in these particular benthic habitats is highly diversified.
- 18 The fauna is dominated by crustaceans and polychaetes.
- 19 The fauna is small-sized and interstitial.
- Two species are new for the English Channel.

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#### Abstract

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- Our study concerns the sampling of patches of mobile gravel and pebbles at 14 stations (25 to
- 25 66 m water depth) in an area of hard bottom located in the 'Raz Blanchard' (between Cap de
- La Hague in France and Alderney in the Channel Islands, UK). The samples collected from
- 27 these benthic habitats with scattered fauna were sieved on 1-mm mesh and subjected to
- 28 meticulous sorting, revealing the presence of a highly diversified mobile fauna. The epifauna
- and vagile macrofauna (> 1 mm) account for 140 taxa (120 species, 17 genera and three other
- 30 levels of identification). Amphipods and polychaetes dominate the taxonomic richness, while
- 31 crustaceans represent 75% of the fauna. Among these taxa, two species are new for the
- 32 English Channel marine fauna. Biological Traits Analysis (BTA) indicates that the species
- 33 show adaptation to such strong hydrodynamic conditions, owing to their small size which

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