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

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**ORIGINAL ARTICLE****Surprisingly diversified macrofauna in mobile gravels and pebbles from high-energy hydrodynamic environment of the ‘Raz Blanchard’ (English Channel)**Aurélie FOVEAU<sup>1,\*</sup> & Jean-Claude DAUVIN<sup>1</sup><sup>1</sup> *Normandie Univ., UNICAEN, UNIROUEN, Laboratoire Morphodynamique Continentale et Côtière, UMR CNRS 6143 M2C, 24, rue des Tilleuls, F-14000 Caen, France*

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**Highlights**

The Raz Blanchard is an area of high-energy hydrodynamics with a hard and irregular seabed.

The fauna in these particular benthic habitats is highly diversified.

The fauna is dominated by crustaceans and polychaetes.

The fauna is small-sized and interstitial.

Two species are new for the English Channel.

**Abstract**

Our study concerns the sampling of patches of mobile gravel and pebbles at 14 stations (25 to 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 these benthic habitats with scattered fauna were sieved on 1-mm mesh and subjected to 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 levels of identification). Amphipods and polychaetes dominate the taxonomic richness, while crustaceans represent 75% of the fauna. Among these taxa, two species are new for the English Channel marine fauna. Biological Traits Analysis (BTA) indicates that the species show adaptation to such strong hydrodynamic conditions, owing to their small size which

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