The Occurrence of the Portuguese Man-of-War (Physalia), and of a Giant Spider-Crab, "Homola (Paromola) cuvieri," in the English Channel.

THE occurrence of the Portuguese man-of-war (Physalia) on the English coast is so unusual as to be well worth recording. During March and the early part of April, 1912, numbers of the Atlantic form of Physalia were cast up on our shores at various points between Cardigan Bay and Seaford in Sussex. It was also reported by M. Caullery[1] as occurring along with Velella on the French side of the Straits of Dover in the early part of April, 1912. Specimens were also sent to this laboratory on February 10 this year from Looe, on the south coast of Cornwall. There can be little doubt that the presence of Physalia on the south coast of England in March and April, 1912, was due to the almost continuous high southerly to south-westerly winds indicated in the south-eastern part of the North Atlantic in the meteorological reports for the early part of that year.

Physalia is believed to occur normally only in the warmer currents of the Atlantic Ocean,[2] but in the early months of the year large specimens are not infrequently blown into the Mediterranean, and after storms thousands have been found about the same time of the year on the beaches of the Canary Islands. It is therefore not improbable that the Physalia stranded on the English coasts had been driven by the wind from the eastern portion of the subtropical North Atlantic.

It is interesting to note that at the end of March northerly winds set in in the eastern part of the English Channel. This circumstance probably explains why Physalia and Velella were driven on to the French side of the Straits of Dover.

It may also be of interest to mention that a specimen of the very large spider-crab *Homola* (*Paromola*) *cuvieri* has been taken for the first time on record in the English Channel. The specimen is a very fine male. When the large clawed legs are held out at right angles to the body, the span is nearly 4 ft. (117·3 cm.), while the length of the carapace is rather more than 6½ in. (16·6 cm.). We are informed by Messrs. M. Dunn and Sons, who presented the crab to the Marine Biological Laboratory at Plymouth, that it was taken by fishermen on December 16 last, in a trammel-net three-quarters of a mile E.S.E. of Pen-a-Maen Point (north-east of Dodman Point), on the Cornish coast. At this spot the depth of water is about 15 fathoms, whereas in the Mediterranean this crab is said to inhabit the deeper waters, and has been taken there in about 215 fathoms. Off the north-west coast of Africa[3] it has indeed been recorded from a depth of 350 fathoms.

There is an abundant growth of marine animals (viz. Anomia, Pomatoceros, Serpula, Sabella, Botryllus, Antennularia, Ascidiella, Plumularia) on the back and legs of the crab, a fact which seems to indicate that the animal has been living at least some months in relatively shallow water. This specimen of Homola is still living in the tanks at the Marine Biological Laboratory, and is feeding well.

The occurrence of Homola in the English Channel is one more instance of the close relationship of the fauna of this region with that of the Mediterranean and neighbouring parts of the Atlantic. Homola, however, has been recorded rarely from the west coasts of Ireland and Scotland,[4] hence there is the possibility that this northern distribution may have been effected partially by means of the current which flows from the Mediterranean, and is believed to spread along the western shores of Europe. There is, moreover, reason to believe that the more typical planktonic forms of life might be carried considerable distances in such a wind-drift as that in which Physalia must have been. It is not suggested, however, that the larvæ of Homola, for example, would be driven so far as Physalia and Velella in similar circumstances, for it is well known that these two Siphonophores, inasmuch as they are semi-aerial, comprise a separate category of plankton with regard to their adaptation for distribution.

The recent distribution of Physalia may therefore be said to offer us a picture by means of which we can more readily understand, for example, the close relationship between the fauna of the English Channel and that of the Mediterranean and neighbouring Atlantic region.

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[1] M. Caullery, *Bull. de la Soc. Zool. de France*, tome xxxvii., 1912, pp. 180–2.
[2] C. Chun, "Ergeb. der Plankton-Exped." Die Siphonophoren, Bd. II., K.b, 1897, p. 89.
[3] A. Milne Edwards and E. L.-L. Bouvier, "Expeditions Scientifiques du Trav. et du Talisman." Crust. Decap., I., 1900, p. 10.
[4] "Guide to Crustacea, &c., Exhibited in the Department of Zoology, British Museum (Natural History), 1910." p. 66.

Actual Conditions affecting Icebergs.

IN the interesting discussion by Dr. Aitken on the relation between laboratory experiments and actual conditions, as affecting icebergs (NATURE, January 9), there is one element of primary importance which appears to be too much overlooked. To put it in the most general terms, icebergs are almost always moving in the drift of an ocean current; and the point to which I wish to direct attention is the relative movement of the water with respect to the iceberg.

It is the nature of constant currents to have a greater speed at the surface and to decrease in velocity with the depth. This is a usual characteristic, as found in my investigations in the Tidal and Current Survey, in several such currents. For example, when the surface speed is one knot or more the velocity may fall to about half this at 30 fathoms, and it may be only distinctly appreciable at 90 fathoms. An iceberg in such a current will, of course, move with the average velocity corresponding to its draught, and, as a consequence, the *normal* condition is that an iceberg has a superficial current running past it. It is also probable that this current will usually be much greater than such movements of the water around it as are set up by convection, from difference of temperature.

It is also to be noted that this relative movement is independent of wind disturbance and tidal effect, which often accentuate it. In the work of this Survey, I have had ample opportunity to observe these effects while at anchor in the open amongst icebergs for days at a time. In Belle Isle strait, they ground in a depth of 30 or even 50 fathoms, which shows the draught they may have; and the strong tidal streams of 2 to 2½ knots running past them create a wake behind them, like a vessel under sail. This may be considered an unusual condition, but it should not be overlooked in discussing practical safeguards, for an iceberg aground on the 30-fathom bank in the middle of Belle Isle strait is as much of a menace to navigation as any.

Although there may thus be many modifications of general conditions, it will be on the safe side to assume in this discussion that there is always a superficial current of appreciable amount flowing past an iceberg, even in the open, while it is carried along in any berg-bearing current.

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Ottawa, Canada, January 25.