

At 6.45 A.M. shortened and furled sails, and got up steam to sound. At 7.30 A.M. sounded in 2475 fathoms. At 9 A.M. took a series of temperatures down to 500 fathoms. At 10.15 A.M. completed observations, and made all plain sail. STATION 103.

St. Paul's Rocks distant at noon, 738 miles. Made good 145 miles. Amount of current 23 miles, direction N. 38° W.

**Surface Organisms.**—The following species are recorded from the surface-net sent down to 100 fathoms :— ORGANISMS FROM SURFACE-NETS.

AMPHIPODA (Stebbing, Zool. pt. 67).

*Phronima pacifica*, Streets.

MACRURA (Spence Bate, Zool. pt. 52).

*Sergestes oculatus*, Krøyer.

During the day the tow-net was sent down to a depth of from 80 to 100 fathoms, and, though it could only have been at that depth for a short time, a great many animals were obtained which were not to be found in the surface water. There was a great abundance of *Globigerinæ*, a few *Pulvinulinæ*, many species of Radiolaria, *Peridinium*, small Medusa, *Sagitta*, *Hydrophanes* (for the first time), *Saphirina* and other Copepods, *Hyperia*, *Pterotrachea*, Pteropods, *Cranchia*, young *Pyrosoma*, *Appendicularia*, *Fritillaria*, *Doliolum*.

Willemoes-Suhm writes: "From a depth of 100 fathoms the tow-net, after having been out only a very short time, brought up a quantity of those animals taken at the surface only at night, while the tow-net dragged at the surface for a considerable time brought in very little. This shows clearly that certain animals live during the day at a depth of 100 fathoms, and come to the surface only at night. Other forms, however, not taken to-day, but which have been taken in abundance at night, must live during the day probably at still greater depths. Among the worms was a very transparent *Hydrophanes*, hitherto observed only a few times by Krohn and Claparède; the latter has given an excellent figure of the Mediterranean species, *Hydrophanes krohni*, from which the species taken to-day differs somewhat in the form of the bristles of the antennæ, is somewhat older, and is possibly only a variety or the opposite sex. The worm is interesting as being a connecting link between the Phyllodoceans and the Alciopans; it is an *Alciopa* with simple eyes, or one might say that *Alciopa* is only a *Phyllodoce* with very big eyes, and that it is quite unnatural to make a separate family for it. Anyhow it is very interesting to find a *Phyllodoce* with ordinary eyes deviating from all the other bottom-living members of the family in the extreme transparency of its tissues and glands at the base of the feet. The genus *Hydrophanes* is besides distinguished by immense bacilliparous glands opening, as I have found to-day, into the pharynx, and by two ciliary sacs on each side of the head, which can be inverted and then look like ciliated tentacles. Such retractile ciliated organs are known in several Annelids, and I have recently shown their presence in *Glycera alba*. They may perhaps be compared physiologically with