

sample of the bottom, containing animals living, or which had been living when they entered the dredge; for in most cases when brought to the surface they were perfectly dead. Of the nine successful hauls, four were in depths above 1500 fathoms and under 2000, four above 2000 and under 3000, and one in a depth of 3150 fathoms. In each case, what with the slack of the line and the movement of the ship, the dredge had to travel from eight to ten statute miles through the water, and necessarily each dredging operation occupied a whole day. Under these circumstances, it was, of course, out of the question to attempt to make a perfect collection of the bottom fauna, particularly since all our investigations tend to show that animal life, represented by the higher groups, is scattered and by no means abundant at extreme depths. Our object was to get a fair representation of the deep-sea fauna of this region, and to settle finally the question whether abysses existed where the condition depending upon depth was so extreme as to place a limit to the distribution of living beings. In the former of these objects I believe we have succeeded fairly; in the latter, completely.

The dredgings yielded at least 28 species, not including the foraminifera. Of these, 7 were mollusca (2 gasteropods and 5 lamellibranchs); 3 crustaceans; 4 annelids and 1 gephyrean; 4 molluscoids (1 brachiopod and 3 bryozoa); 2 alcyonarian and 2 zoantharian corals; 3 echinoderms and 3 sponges.

Four species of mollusca—referred to three genera which are abundant in water of moderate depth, *Arca*, *Limopsis*, and *Leda*—were dredged at a depth of 2740 fathoms, where they were associated with two species of bryozoa allied to well-known forms.

All the mollusca which we took were small, and several of them appeared to be identical with species procured at great depths in the *Porcupine* dredgings; a fact in favor of an opinion expressed by Professor Lovén and myself, that many forms