Zoology Part LXIX: Report on the ANOMURA. By Professor J. R. Henderson. Bound in Volume 27,1888.

fathoms. Most of the abyssal species are blind, and the eyes have undergone a process of degeneration which is tolerably uniform in all. The eye-stalk is frequently prolonged in the form of a short spine, while the visual portion is pale in colour and absolutely devoid of pigment. A distinct corneal surface is always present, though in one species (*Munidopsis pilosa*, Henderson) it is remarkably reduced; and in nearly all cases the degenerative changes have taken place without any marked reduction in the size of the eye as a whole. Some of the blind species are remarkable for the great length of their antennæ, rendering it probable that the loss of sight is partially compensated by an increased development of the tactile sense. The puzzling fact that certain deep-water species are blind, while in others belonging to the same group and found at similar depths the eyes are well developed, has been frequently commented on, and the explanation that the former have probably migrated into deep water at an earlier period, and have consequently had sufficient time to undergo modification, appears to be the most satisfactory one. The blind Galatheids share so many features in common, and the most widely separated types are so frequently connected by intermediate forms, that the retention of certain of the genera which have been founded for their reception must, I hold, be regarded as questionable. Since the return of the expedition other naturalists have instituted five new genera, all of which are represented in the Challenger collection.

A very conspicuous feature is the prevalence of species of *Munida*. They are found almost everywhere in deep water, though but few reach a depth of 1000 fathoms, which appears to represent their bathymetrical limit. Prior to the Challenger investigations not more than half a dozen species were known to science, but recent deep-sea dredgings have increased the number to upwards of thirty; no less than fifteen of the species in the present collection are described as new. In none of them—with a single exception—do we meet with any striking modification, though in most cases the eyes are slightly enlarged, a feature commonly observed in those deep-sea animals in which the visual organs are still functional. The exception referred to is that of a species named *Munida microphthalma* by A. Milne-Edwards in his Preliminary Report on the "Blake" Crustacea, which was taken by the Challenger in both the Atlantic and the Pacific. In this species signs of commencing degeneration are apparent, the eyes being remarkably reduced in size, and the corneæ of a light brown colour.

In the majority of the deep-water Galatheids—with the exception of those belonging to the genus *Munida*—the eggs carried by the female are few in number and of remarkably large size. It may be inferred from this that in the deep sea enemies are fewer, and the chances of each individual egg undergoing its full development therefore relatively greater, the result being diminished production on the part of the parents; while the large size of the ova perhaps indicates a protracted embryonic existence.

Two well-marked genera, *Ptychogaster* and *Uroptychus*, and to a lesser extent a third,

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