

ovarian pinnules of *Antedon acoela* and *Antedon angusticalyx*, and also in the substance of the small later joints of the pinnules (Pl. LIV. fig. 5).

As regards the colouring matters in the body of a Crinoid I can do no more than refer to the important observations of Prof. Moseley, who employed the spectroscope on five different occasions when Pentacrinidæ were dredged in the Pacific (Stations 170, 192, 209, 210, 214). *Metacrinus* was obtained at all these Stations, but *Pentacrinus* only at the first and the last two.¹

The colouring matter yielded by most of the specimens is distinguished by very well-defined absorption spectra, and has been termed "Pentacrinin" by Prof. Moseley. It is freely soluble when fresh in slightly acidified alcohol, and gives a solution which is of an intense pink when viewed by transmitted light, but acquires a bluish-green colour when rendered alkaline by the addition of ammonia. "The fresh colouring matter is soluble in fresh water, but remains partly suspended, forming a slightly opaque dark purple solution, which gives, when quite fresh, a mixed acid and alkaline spectrum." All the species, both of *Metacrinus* and *Pentacrinus*, which were obtained off the Kermadec Islands at Station 170 were of a uniform dusky colour when fresh, being evidently coloured by acid pentacrinin. The three species of *Metacrinus* dredged off the Ki Islands at Station 192 "when in the fresh condition, had their stems almost white, and their crowns of a light yellow or light reddish-orange, showing no purple coloration at all; and those dredged off the Panglao and Signijor Islands (Station 210) were almost colourless; nevertheless, when placed in alcohol, they yielded a solution which was deeply coloured of a sap green, and which when acidified, became of the usual deep pink of pentacrinin. The pentacrinin was thus in these examples, though present in great abundance, entirely masked."

I am unfortunately unable to name with certainty the species which was obtained at Station 210, no specimens having reached me with the label of this Station; though, according to Sir Wyville Thomson's MS. notes, four specimens of two species of Pentacrinidæ were obtained here. One of these was perhaps the single individual of *Metacrinus murrayi*, which reached me without any record of its locality; while the other must have been either *Pentacrinus alternicirrus* or *Pentacrinus naresianus*. Three out of seven individuals of the latter species came into my hands without any indication of locality; while a few of the fourteen specimens of *Pentacrinus alternicirrus* were in the same condition. Both were obtained at Station 214, off the Meangis Islands.

There is, however, one difficulty respecting the occurrence of *Pentacrinus naresianus* at Station 210. For while the individuals of this species dredged at Stations 170 and 214 had the dusky purple colour of acid pentacrinin, those supposed to have been obtained at Station 210 were almost colourless, and the pentacrinin, though present, entirely masked.

¹ On the Colouring Matters of various Animals, and especially of Deep-sea Forms dredged by H.M.S. Challenger, *Quart. Journ. Micr. Sci.* 1877, vol. xvii., N. S., pp. 5-10.