

four to ten (usually eight or nine) distichals; twelve to twenty-six, but usually not more than sixteen, palmars in the secondary arms. Sometimes, but rarely, there is another axillary after some thirteen to twenty joints more. The third joint after each axillary is generally a syzygy. The following syzygies are distributed very irregularly in the free arms. The second is between the ninth and thirtieth brachials, usually about the twelfth or fifteenth; and the others at intervals of three to twenty (generally ten or twelve) joints.

The second and following radials bear pinnules of about a dozen moderately stout joints, the lowest of which are more or less massive and cuboidal, but vary considerably in size according to circumstances. The first distichal pinnule is nearly similar to those on the radials, but the following ones consist of more flattened joints, the lowest of which are much broader than their successors. This inequality is very marked in the pinnules which are borne on the palmars and the lower parts of the free arms, and also in a less degree in the smaller terminal pinnules. Brachial ambulacra but little above the narrow arm-groove, and only slightly plated between the origins of the pinnule-ambulacra, which soon begin to show well defined side plates.

Colour in spirit, greyish-white; a uniform dusky purple when fresh (Moseley).

*Localities.*—Station 170A, July 14, 1874; near the Kermadec Islands; lat.  $29^{\circ} 45' S.$ , long.  $178^{\circ} 11' W.$ ; 630 fathoms; volcanic mud; bottom temperature,  $39^{\circ} \cdot 5 F.$  Two specimens, one rather young.

Station 214, February 10, 1875; off the Meangis Islands; lat.  $4^{\circ} 33' N.$ , long.  $127^{\circ} 6' W.$ ; 500 fathoms; blue mud; bottom temperature,  $41^{\circ} \cdot 8 F.$  One good specimen; one mutilated individual, and two stem-fragments, one of which has the calyx and a portion of the arm-bases remaining.

*Remarks.*—This species is the only *Metacrinus* which is known with certainty to occur in the South as well as in the North Pacific. Although nearly resembling *Metacrinus moseleyi*, *Metacrinus costatus*, and *Metacrinus nodosus* in the length of the internodes of the stem and in the number of the distichal joints, it differs from them all in the other characters of the stem. The two last mentioned types have a somewhat sharply pentagonal stem, and the cirrus-facets are not so high as the nodal joints, the angles of which are much produced; while the sides of the joints are smooth or slightly tubercular (Pl. XLIX. fig. 3; Pl. LI. fig. 8). *Metacrinus wyvillii*, however, has a more rounded stem with horizontal ridges on the internodal joints; while the cirrus-facets occupy the whole height of the nodal joints (Pl. XLVII. figs. 1, 2). It is altogether a larger species than *Metacrinus moseleyi*, and has entirely different stem-joints, as is immediately evident upon comparison of the figures on Pls. XLV. and XLVII. respectively.

Another good character of *Metacrinus wyvillii*, which is more or less visible, however, in the species mentioned above, is the peculiar enlargement and flattening against the arm of the basal joints of the pinnules immediately above the radials, and the persistence