

Radials partially visible. First brachials nearly oblong, widening slightly and then narrowing a little. Second brachials quadrate, and appearing in a side view of the specimen to project strongly backward into the first brachials, as the surfaces of both joints rise towards the middle of their line of junction. The following joints have unequal sides, the fourth having a syzygy and bearing a pinnule on the shorter side, usually the right. The seventh joint is more oblong, while the eighth and following brachials become more distinctly unequal-sided, the breadth being about equal to the length of the longer side which bears the pinnule. Further out on the arms the length gradually increases in proportion to the breadth, and the joints become more and more cylindrical. Second syzygy from the seventh to ninth brachial; and the later syzygial intervals vary from one to four joints.

The lower pinnules are all about equal in length, and consist of some twenty joints. Except in the first four or five pinnules all but the lowest joints are twice as long as broad, or slightly longer, and more transparent and glassy than the cirrus-joints. Ovaries short, not extending over more than three or four joints. Towards the arm ends the pinnules gradually decrease both in length and in the number of joints.

Mouth central. Disk and arm-bases rather closely plated, but the brachial ambulacra merely have irregular rods and networks of limestone at their sides. They lie close down between the muscles and show no traces of sacculi. Skeleton white.

Disk 5 mm. in diameter. Radial pentagon 4 mm. Spread probably about 150 mm.

Localities.—Station 164, June, 12, 1874; lat. $34^{\circ} 8' S.$, long. $152^{\circ} 0' E.$; 950 fathoms; green mud; bottom temperature, $36^{\circ} 5 F.$ One specimen,

Station 169, July 10, 1874; lat. $37^{\circ} 34' S.$, long. $179^{\circ} 22' E.$; 700 fathoms; blue mud; bottom temperature, $40^{\circ} 0 F.$ Two specimens.

Remarks.—I have named this species after Professor C. Semper of Würzburg, to whom we owe the discovery during his residence in the Philippine Islands of the type species of *Eudiocrinus* (*Eudiocrinus indivisus*). The absence of pinnules on the second and third brachials distinguishes *Eudiocrinus semperi* both from the type and also from *Eudiocrinus varians*. Furthermore, both these species have sacculi, which are abundant in *Eudiocrinus indivisus*, but rare in *Eudiocrinus varians*; while I have not been able to find them even on the pinnules, either of *Eudiocrinus semperi*, or of the closely allied *Eudiocrinus japonicus*, though they are abundant in the Atlantic species.

Eudiocrinus semperi, like other Comatulæ, exhibits a certain amount of local variation. All three specimens were obtained in a very mutilated condition, hardly anything remaining of one of them but the calyx and the bases of the arms. But sufficient remains of the other two to indicate a considerable amount of flexibility in some of their characters. That from the lesser depth (Station 169) is the larger of the two, and its disk bears larger and more numerous plates; while there are fewer cirri on the centro-