The ambulacral furrows are wide, and the tube-feet, which are arranged quadriserially, have a button-like, centrally invaginated terminal disk.

Colour in alcohol, a dirty brownish grey, probably indicative of a purplish colour when alive.

Locality.—Station 191. In the Arafura Sea, north-west of the Arrou Islands. September 23, 1874. Lat. 5° 41′ 0″ S., long. 134° 4′ 30″ E. Depth 800 fathoms. Green mud. Bottom temperature 39°·5 Fahr.; surface temperature 82°·2 Fahr.

Remarks.—*Asterias vesiculosa* is unlike any of the six-rayed forms at present known; its long, tapering rays, and the peculiar vesiculated character of the abactinal and lateral areas, readily distinguish it from the other species.

2. *Asterias meridionalis*, Perrier.

Asterias meridionalis, Perrier, 1875, Révis. Stell. Mus., p. 76 (Archives de Zool. expér., t. iv. p. 340).

Localities.—Station 149D. Off Royal Sound, Kerguelen Island. Depth 25 and 28 fathoms. Volcanic mud.

Station 149E. Off Cape Maclear, Kerguelen Island. Depth 30 fathoms. Volcanic mud.

Station 149H. Off Cumberland Bay, Kerguelen Island. Depth 127 fathoms. Volcanic mud.

Off Kerguelen Island. Depth 10 to 50 fathoms. Volcanic mud.

Off Marion Island. Depth 50 fathoms. Volcanic sand.

3. *Asterias perrieri*, Smith.

Asterias Perrieri, Smith, 1876, Ann. and Mag. Nat. Hist., ser. 4, vol. xvii. p. 106; Phil. Trans., Zool. Kerguelen Island, 1879, vol. clxviii. p. 273, pl. xvi., figs. 2, 2*a*, 2*b*.

Othilia sexradiata, Studer, 1876, Monatsber. d. k. preuss. Akad. d. Wiss. Berlin, p. 458.

Localities.—Station 149D. Off Royal Sound, Kerguelen Island. Depth 25 and 28 fathoms. Volcanic mud.

Off Kerguelen Island. Depth 110 fathoms. Volcanic mud.

Remarks.—The largest of the type examples of this species preserved in the British Museum is remarkable from the fact (observed by Mr. Edgar A. Smith) that it "has a cluster of some hundreds of young ones clinging to its ventral disk." On examining this specimen recently, with a view to ascertain the nature of the attachment, I came to the conclusion that this frequently observed but hitherto unexplained position of the young of certain species of *Asterias* in the region of the mouth is due to the fact that the ovarial tubules are ejected through the actinostomial opening, and that the ova then complete their development *in situ*, the embryos remaining attached to the mother by means of the primitive connection of their "larval organ" with the now disintegrated filaments of the ovarial membrane.