The pleopoda are long and two-branched, the inner branch of the first pair in the male being developed into a membranous petasma, while in the female it is reduced to a rudimentary condition.

The posterior pair is differentiated to form the outer plates of the rhipidura, and are long and ovate; the inner plate is strengthened by a double longitudinal median rib, and the outer by a similar rib that traverses the plate subcentrally, and another that lies along the outer margin, with which the median one coalesces at the margin, a short distance from the distal extremity, to form a lateral tooth, near which is an obsolete diæresis.

Aristeus differs from *Penæus* in many essential points. Those which are external and obvious, and can be readily used for the determination of the genus, are the first pair of antennæ, which have flagella unequal in length and different in form, and possess the notable feature that one springs from near the base of the third joint of the peduncle and the other from its distal extremity; the absence or rudimentary condition of the prosartema; the one-jointed character of the ophthalmopod, which bears on the inner side a small tubercular process which I believe can be demonstrated, in *Benthesicymus*, to be a complementary eye; the altered character of the appendage attached to the mandible, which in this species is comparatively small; certain differences in the form of the oral appendages; and, finally, the structure and arrangement of the branchial plumes.

Geographical Distribution.—This genus consists mostly of deep-water species, which swim freely in the sea, and during the cruise of the Challenger were never captured in less than 255 fathoms of water.

Penæus antennatus, Risso, the type of Duvernoy's genus, was taken in very deep water in the Mediterranean, where it has since been procured by Mr. James Yates Johnson, who obtained his specimens of *Funchalia woodwardi* at Madeira. The form nearest to the type that I have examined is *Aristeus armatus*, which was captured at seven different localities, at depths ranging from 1400 to 2350 fathoms. The average temperature of its habitat was about 36°, the highest being 38°·8, at a depth of 2050 fathoms, off the Philippines. Thus, this species lives in an Arctic temperature, and under the pressure of a column of water more than two miles in depth, between the latitudes of 35° north and 35° south of the Equator.

Running down the eastern coast of South America, in the month of September 1873, the Challenger must have passed through a great multitude of young animals of this genus, varying in size from 4 to 14 mm., all of which bore evidence of belonging to allied species. The specimens corresponded closely excepting in such features as may be dependent upon age.