Beside these species there is represented a third by a specimen labelled "Deep haul, 1000 fathoms. Pacific, July 26, 1875." On this date the Challenger was in lat. 23° 3′ N., long. 156° 6′ W., a few degrees north of Honolulu. This specimen, therefore, was captured in the open sea, at a great distance from land; but it would seem to be uncertain whether it came from that great depth or from the surface. On the one hand, as living specimens of *Branchiostoma* are always observed to sink to the bottom after some almost convulsive motions to wriggle themselves towards the surface, it is difficult to see how a Lancelet could maintain itself at the surface in the open ocean; on the other hand, the perfect condition of the delicate fin-fringe would suggest that the specimen could not have been hauled up from so great a depth, without showing signs of injury. However this may be, the specimen, although approaching in form, and in the number of myocommas, *Branchiostoma belcheri*, differs from it in the shape of the caudal fin, and especially from this and all the other species by the absence of buccal cirrhi.

Branchiostoma pelagicum, n. sp. (Pl. VI. fig. B).

The specimen is 10 mm. long and 1 mm. deep; it was mounted in glycerine for the microscope at the time of its capture.

The anterior end of the notochord is enveloped in a very strong sheath; the posterior ($\frac{1}{2}$ mm.) is not covered by the myocommas, which leave off abruptly, and extends right to the hind margin of the caudal fin. Eye distinct; nerve-cord with minute pigment-spots arranged intracentrally with regard to the myocommas. Dorsal fin-rays low, but very distinct, about five to each myocomma. The dorsal fin-fringe commences to become distinct about the twenty-seventh myocomma, gradually becoming somewhat higher behind. Its rise is more abrupt where it passes into the caudal fin, which is paddle-shaped and bilaterally symmetrical with regard to the notochord. The lower half of the caudal passes uninterruptedly into the ventral, in which no rays are developed. This fin seems to be continued forward as a very low fringe for some distance beyond the supposed position of the atrial pore. Nearly the whole of this fringe shows a minute vertical striation, especially in its higher portions.

The number of myocommas is sixty-seven, of which fifteen belong to the tail. How many should be attributed to the portion between vent and atrial pore is uncertain on account of the difficulty in ascertaining the position of the latter. I have been unable to make out this pore, and infer its position to be opposite to the thirty-sixth myocomma only from analogy or comparison with other species, and from a slight contraction of the muscular layer at this spot.

Buccal tentacles are absent; this cannot be due to the age of the individual, as they