

This species, since first described by Dana, does not appear to have been identified by any naturalist except Stimpson; it is so much like *Penæus affinis*, Milne-Edwards, that it has probably been mistaken for it, as in general appearance the species correspond.

Penæus barbatus, de Haan,¹ differs from it in the number of teeth on the rostrum, which is figured with eight, the posterior of which is distant from the others and described "Rostrum margine . . . , superiore 5-7 dentato;" the greater length of the flagella of the first pair of antennæ, and in having "Pedes tres antici basi unispinosi;" a circumstance that separates de Haan's species from those that I have described (as *Penæus velutinus*) from off the southern coast of Japan. They may however with certainty be distinguished by several important points, of which the following are the most conspicuous.

The rostrum in *Penæus velutinus* is not quite so long in relation to the length of the carapace, the denticulation on the upper surface is deeper and closer, and the rostrum greater in depth and less styliform at the extremity. The flagella of the first pair of antennæ are shorter. The first pair of pereopoda is armed with two strong teeth, and the second pair with one. In the female two long slender teeth project from the ventral surface of the somite between the second pair of pereopoda; which, together with a variation in the form of the petasma attached to the first pair of pleopoda in the male, are decided points of specific separation.

Dana dredged his specimen off the Sandwich Islands, but records it as being only one and three-quarters of an inch long, or about one-half the length of those taken by the Challenger, excepting in the case of a few young ones, which I presume Dana's specimen must have been.

At Station 190 numerous specimens were taken, ranging in sizes from 25 mm. to 75 mm. The adult male corresponds with that of our type, except that it has the longer branch of the petasma tipped with radiating points; in the younger forms the extremity of that organ is smooth and not prolonged, and in a still younger male the two branches are separate and narrow. The females also correspond with the same sex in the typical specimens, except that the two spinous teeth between the second pair of pereopoda are short in the younger specimens, and in some they appear to be absent.

These may be recognised as a variety under the name of *radiata*.

The following species exhibit a resemblance in external form to *Penæus velutinus*, the variation in the number of teeth on the rostrum being inconsiderable, and in my opinion of secondary importance, and they each carry a solitary tooth planted on the gastric region, varying a little in position, being more or less distant from the posterior tooth on the rostrum. Notwithstanding this general similitude there are certain important details that appear to me to be neither directly or immediately transmit-

¹ V. Siebold's Fauna Japonica, Crustacea, p. 192, *Penæus barbatus*, pl. xvi. fig. 3.