

line of 60° F. (for August) or with the isocryme of 44° F. When the temperature sinks very low *Clione limacina* may reach more to the south; thus, from April 7th to the beginning of May 1868, it was observed at Portland, Maine, U.S.A. (lat. 43° 30' N.)¹ and in 1833 at New York (lat. about 41° N., the latitude of Madrid and Naples).

Notwithstanding that these two localities are comparatively southern from a geographical point of view (isothermally New York corresponds with Scotland), they are less remarkable than the European locality of Falmouth, Cornwall (about lat. 50° 9' N.),² for, isothermally, Falmouth nearly corresponds with the localities in lat. 35° N. on the east coast of North America.

Observation.—The larvæ of this species had not been described until quite recently, and having been able to examine a great many larvæ of all sizes, I prepared drawings of young *Clione*; but since Boas has lately figured it,³ I do not think it necessary to introduce these into the plates of this Report.

The naked larvæ of *Clione limacina*, in the first stage of their development, are certainly testaceous like that of *Clione flavescens*, Gegenbaur (*Clio aurantiaca*, Fol).⁴ They differ from the adult by the length of the posterior lobe of the foot (which is often longer than figured by Boas), and by the fact that the visceral mass extends more posteriorly in the body. The fins of the very small larvæ are but little developed.

The ciliated rings often remain to a very late stage, but in a rather variable manner; the anterior ring has nearly always disappeared from specimens measuring from 2 to 3 mm., and the second ring from specimens of 5 or 6 mm., but old larvæ of 15 mm. occasionally retain the three ciliated rings. Traces of the posterior ring are often found on specimens of rather large size.

The hook-sacs of the larvæ with ciliated rings are identical with those of adults, while the radula differs by the small number of lateral teeth.

Clione limacina is the only Gymnosomatous Pteropod of which the copulation has been observed. Copulating specimens, preserved in alcohol, are disposed as follows: the two animals are in contact ventrally, in symmetrical positions, with their axes parallel; the union is reciprocal, the two penes crossing each other, the short branch being placed at the genital orifice of the other animal, and the long branch turned behind and applied by its extremity to the ventral side of the other branch.

With *Clione limacina* I identify *Clione elegantissima*, Dall. This form was found by Dall in the North-West Pacific; the collected specimens measured about 7 mm. One of these specimens which Dall kindly sent to me does not differ at all from *Clione limacina*

¹ Gould, Report on the Invertebrata of Massachusetts, p. 507.

² There is in the collection of the Museum d'Histoire Naturelle of Paris a specimen from Falmouth, presented by Leach.

³ *Spolia atlantica*, pl. vii. fig. 103. In the same plate (fig. 101) there is a good figure of the adult. Therefore a new figure of the adult *Clione limacina* in the plates of this Report is quite unnecessary.

⁴ Sur le développement des Pteropodes, *Archives d. Zool. expér.*, sér. 1, t. iv. pl. x. figs. 6, 7.