

I am doubtful how far the number and position of the stigmata can be taken as a diagnostic character in these species of *Doliolum*. Possibly there may be a certain amount of individual variation. It is evident that *Doliolum denticulatum*, Q. and G., *Doliolum ehrenbergi*, Krohn, *Doliolum gegenbauri*, Uljanin, *Doliolum tritonis*, Herdman, and the two new species *Doliolum affine* and *Doliolum challengerii*, are all closely allied; and, on the other hand, *Doliolum mülleri*, Krohn, *Doliolum rarum*, Grobben, and the new species *Doliolum krohni*, described below, are also closely related to one another; but whether these nine species are all distinct, or whether they might not be better arranged as so many varieties of two species, *Doliolum denticulatum* and *Doliolum mülleri*, is a question which will have to be discussed when we know more about their characters in the various stages of their life-histories, and when we know the range of their individual variations.

Doliolum krohni, n. sp. (Pl. III. fig. 1).

Body of the usual cask-like form.

Mantle having the usual eight muscle bands.

Branchial Sac with comparatively few stigmata, which are restricted to the posterior end of the sac. There are about twenty-five pairs, which run in an oblique band posteriorly and dorsally from a little in front of the fifth muscle band to a little behind the sixth.

Endostyle extending from the second muscle band nearly to the fifth.

I refer to this new species the following specimens:—

- (1.) December 14 and 15, 1875; South Pacific, off Valparaiso; lat. $33^{\circ} 31' 0''$ — $33^{\circ} 12' 0''$ S., long. $74^{\circ} 43' 0''$ — $76^{\circ} 29' 0''$ W.; surf. temp. 62° — $62^{\circ} 5$; about thirty specimens.
- (2.) Two microscopic slides mounted during the expedition. From same locality as (1).

This species is related to *Doliolum mülleri*, Krohn, and *Doliolum rarum*, Grobben, as all three species are characterised by having the stigmata in the branchial sac restricted to the posterior end of the organ. In *Doliolum rarum* there are only five pairs of stigmata. In *Doliolum mülleri* there are ten to twelve pairs, and they form a band which runs dorso-ventrally midway between the fifth and sixth muscle bands, and nearly parallel to them. In the present species (see Pl. III. fig. 1) there are twenty-five pairs of stigmata, forming an inclined band crossing both fifth and sixth muscle bands as it runs posteriorly and dorsally. The posterior extremity of the endostyle reaches back almost to where the stigmata commence.