for material cleared in oil of cedar, which is very brittle, to break immediately behind the ovary is the only other indication, apart from the reproductive organs, of proglottidation. This tendency, however, so far as could be determined is not based on any differentiation of the parenchymatous tissues internally at this level but more probably on mere differences of support in the latter, the ovary rendering the parts immediately ahead more resistant to strain. The following are some relative measurements of a typical strobila (Fig. 3):-

| Proglottis. | Length. 1.85 mm. 2.37 mm. 2.03 mm. | Greatest Width.                  |
|-------------|------------------------------------|----------------------------------|
| 22          |                                    | 0.48 mm.<br>0.48 mm.<br>0.58 mm. |
| <b>84</b>   |                                    |                                  |

What is apparently the end-proglottis is rounded posteriorly (Fig. 12) and provided with a functioning set of genital organs. The endings of the excretory vessels in this joint, however, seem to point to some part of the strobila (perhaps, also, of the plerocercoid) being lost at an early stage (vide infra).

## CUTICULA.

The cuticle, a well-developed structure excepting in the oldest portions of the strobila where it is often much torn or even missing over small areas, is from 3 to  $4\mu$  in thickness. It is divisible into two principal layers in each of which other layers can be distinguished. The outer of these, about two-thirds as thick as the inner, does not stain as well as the latter owing to the fact that it is made up of alternating dark and lighter areas arranged so as to give a striated appearance. The darker lines seem to be composed of minute granules while the lighter are more homogeneous (Fig. 7). Bounding this layer peripherally there is to be seen in many sections an extremely narrow clear line, followed by a sort of external limiting membrane, while in others, especially those through young strobilas, only very minute teeth which seem to be continuations of the darker lines are visible. The inner layer of the cuticula takes stains much more readily than the outer and is quite homogeneous with the highest magnifications. The line separating the two, however, is slightly darker than even the inner, which is perhaps due either to larger granules than those in the dark lines of the outer layer or a greater number packed more closely together. Bounding the inner layer on the inside there is a well-developed basement-membrane, brought out best by Mallory's stain. This is often separated from the homogeneous layer by a clear line as indicated in the figure. Then again just outside the basement-membrane the former is slightly granular in some quite thin sections. The cuticle is traversed at short intervals by the minute