IV - RATE OF DEVELOPMENT

The following is a rough time-table of important events that take place from the time of oviposition up to hatching of the embryo at 34° C.

<table>
<thead>
<tr>
<th>Age of Embryo in hours</th>
<th>Stage of Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 4</td>
<td>Cleavage nuclei begin to migrate outwards.</td>
</tr>
<tr>
<td>4 - 6</td>
<td>Pole cells forming. Cleavage nuclei begin to arrange themselves over the periplasm.</td>
</tr>
<tr>
<td>8 - 10</td>
<td>Pole cells completely segregated. Cleavage nuclei cover the entire surface of the egg except the polar cap region.</td>
</tr>
<tr>
<td>12</td>
<td>Blastoderm complete.</td>
</tr>
<tr>
<td>18 - 20</td>
<td>Amnion and serosa formation completed. Neural groove appears. Segmentation of the body begins. Gastrulation completed. Inner layer spreads over but the coelomic cavity has not yet appeared. Neuroblasts begin to differentiate. Germ band elongates, and proctodaeum begins to be formed.</td>
</tr>
<tr>
<td>24 - 26</td>
<td>Provisional dorsal closure completed. Appendicular buds of the head and thorax become well defined.</td>
</tr>
<tr>
<td>Age of Embryo (in hours)</td>
<td>Stage of Development</td>
</tr>
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<td>-------------------------</td>
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</tr>
<tr>
<td>42 - 44</td>
<td>Shortening complete. Embryo begins to straighten out. Head in well formed.</td>
</tr>
<tr>
<td>43 - 48</td>
<td>The upper part of the embryo begins to lengthen and grow forward toward the head. Mid-gut cells divide, the mid-gut cells begin to lengthen. Cartilage begins to form. The paired mesodermal masses unite to form the notochord.</td>
</tr>
<tr>
<td>50 - 60</td>
<td>Definitive dorsal closure formed. Heart formation completed. Mid-gut cells enclose the yolk completely from all sides.</td>
</tr>
<tr>
<td>70 - 75</td>
<td>Mid-gut cells form a mesodermic tube. Blood islands appear in the mesodermic tube.</td>
</tr>
<tr>
<td>76 - 80</td>
<td>Neural tube on the head-side. Vertebral are formed in the mesodermic.</td>
</tr>
<tr>
<td>86 - 96</td>
<td>Axial elongation.</td>
</tr>
</tbody>
</table>