

Schistocerca gregaria developmental staging at 29 – 30 °C

h AEL	Days AEL	% dev.	Characteristics	# energids/cells
0-4		0	<i>Egg light yellow</i> ; lipid droplets uniform in size	1
4-8		5	Energids at posterior only; <i>egg brown</i> ; lipid droplets variable in size	1-20 energids
8-12		5	Energids reach 20-30% egg length	20-80 energids
16-20		6.5	Energids reach 40-50% egg length; scattered energids at posterior pole; typically 1-2 cell clusters	
18-22		8	Energids reach 50-60% egg length; scattered energids at posterior pole; typically 3-4 cell clusters	
28-32	1	10	Energids reach 60-70% egg length; some energids still throughout yolk; cells confluent at posterior pole as <i>circular blastodisc</i> with ragged edge; cells not close packed	
36-38		11	Energids reach 80% egg length; well defined circular aggregate; gastrulation groove	
42		123	Energids reach anterior pole; gastrulation furrow and start of asymmetry	
44-48		14	<i>Early heart stage</i> ; blastodisc almost triangular; extraembryonic membranes start to fold	
48-52	2	15	Late heart stage; trunk almost parallel sided; extraembryonic membrane travelling over posterior of trunk (amnion); early yolk cleavage	
58-60	2	17	Tadpole stage; trunk twice as long as head; first En expression	
	2	20	<i>Primary segmentation</i> : embryo post-anatrepsis; yolk cleavage 2/3 length of egg	
		25	<i>Segmentation to A3</i> ; neuroblasts visible; leg rudiments larger than mouthpart rudiments	
	4	30	<i>Embryo fully segmented</i> ; eye region delaminated; rudiments on first two abdominal segments	
	4	35	<i>Rudiments on all abdominal segments</i> ; primary cuticle visible; proctodeum in A10	
		40	<i>Separation of femur and tibia in metathorax</i> ; embryo half egg length; proctodeum in A9	
		45	<i>Separation of tibia and tarsus in metathorax</i> ; katatrepsis initiated; proctodeum in A8	
	7	50	<i>Pigmentation of eye</i> ; embryo post-katatrepsis; metethoracic tibia parallel to femur	
		55	<i>Antennal furrows</i> ; metathoracic tibia reaches base of femur; herringbone array of extensor tibia muscle fibers	
		60	<i>White line on eye</i> ; rotation of embryo; embryo more than 3/4 egg length	
	9	65	<i>Double curvature of metethoracic tibia</i> ; leg twitching; synchronous contraction of median sinus	
		70	Metathoracic tibia <i>straightened</i> ; embryo pale green; white line close to A margin of eye	
		75	<i>Longitudinal rows of brown pigment spots line metathoracic femur</i> ; brown pigment on D caudal midline	
	11	80	<i>Brown pigment spots on all legs</i> ; apolysis of second embryonic cuticle completed	
		85	<i>Clearing of femoral crescent</i> ; embryo bright green; vertical eye stripes	
		90	<i>Tarsal claws black</i> ; brown pigmentation covers compound eye; transverse dark green stripes on metathoracic femur	
		95	<i>Black hairs on antennae</i> ; integument opaque white; dark blue colour within antennae and metathoracic legs	
		100	<i>Hatching</i> ; in saline, embryos close to 100% begin peristaltic contractions	