

Figure S1. Centriole and primary cilia structure in adult *Anisopteromalus calandrae* generative cell (spermatid). View from the top of primary cilia (view from the distal end of centriole): (A-D) top of primary cilia with an irregular structure; (E-G) sections of primary cilia with a regular structure; (H) section of intermediate zone; (I-L) serial sections across the centriole. Scale bar: 100 nm.

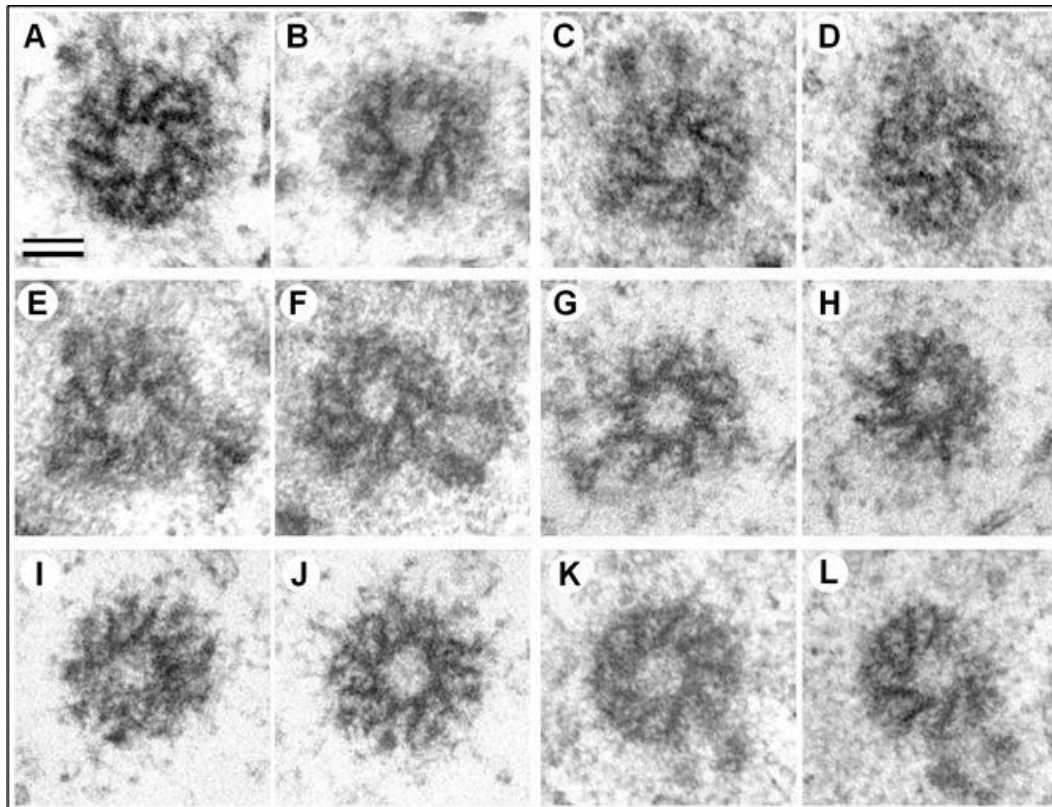


Figure S2. Centriole structure in larvae *Anisopteromalus calandrae* somatic cells. Six different centrioles on cross sections; view from the distal ends of centrioles. (A, B) two consecutive sections from centriole 1; (C, D) two consecutive sections from centriole 2; (E, F) two consecutive sections from centriole 3; (G, H) two consecutive sections from centriole 4; (I, J) two consecutive sections from centriole 5; (K, L) two consecutive sections from centriole 6. Scale bar: 100 nm.

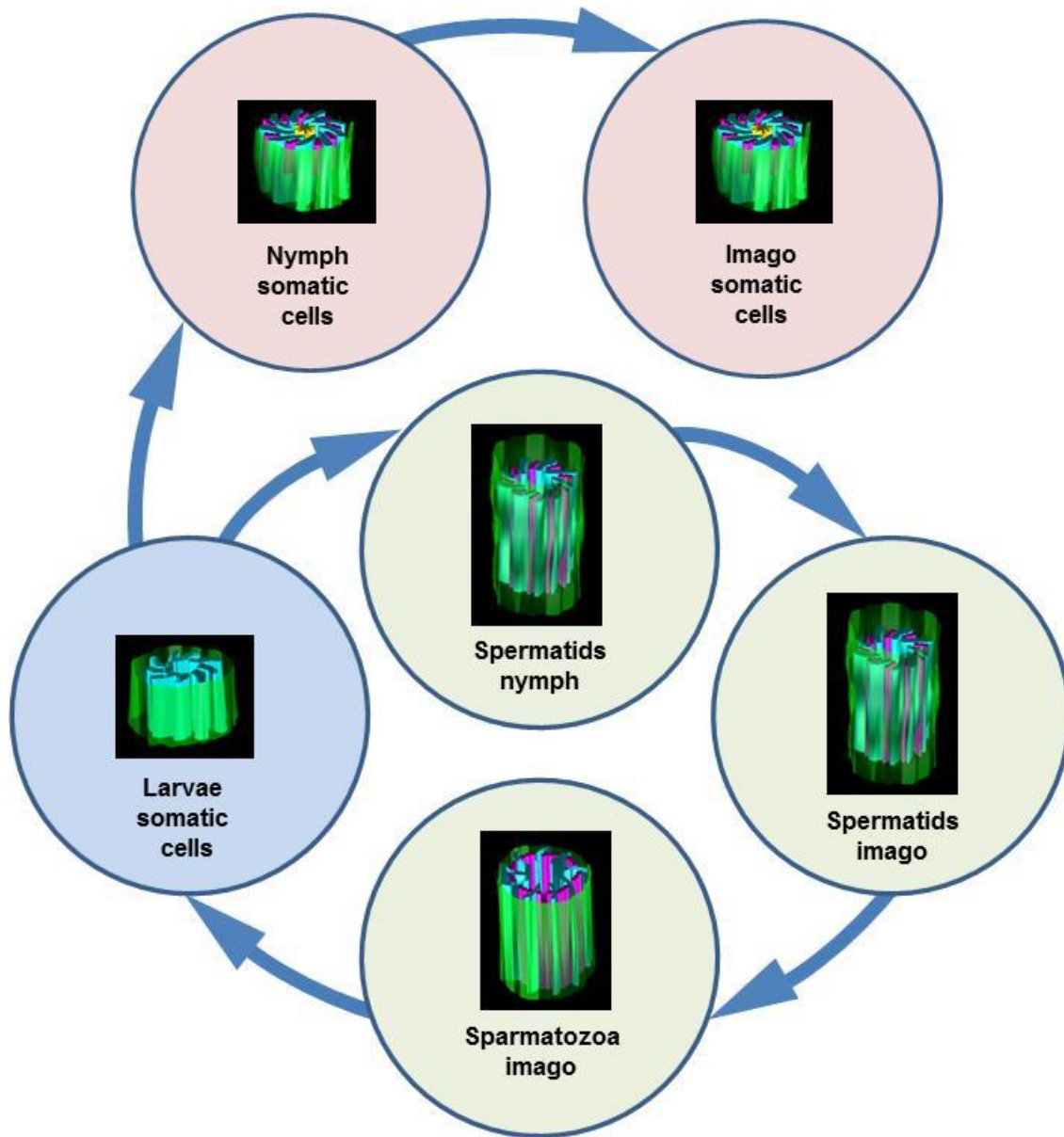


Figure S3. Scheme of mutual transitions of different types of centrioles during *Anisopteromalus calandrae* development. Three morphological types of centrioles: 1) short MT-free centrioles in larval somatic cells (blue circle); 2) short centrioles with MT triplets in the wall of the centriolar cylinder in somatic cells of pupae and adults (pink-brown circles); 3) long centrioles with MT triplets in the male germ cells of pupae and adults (green circles).

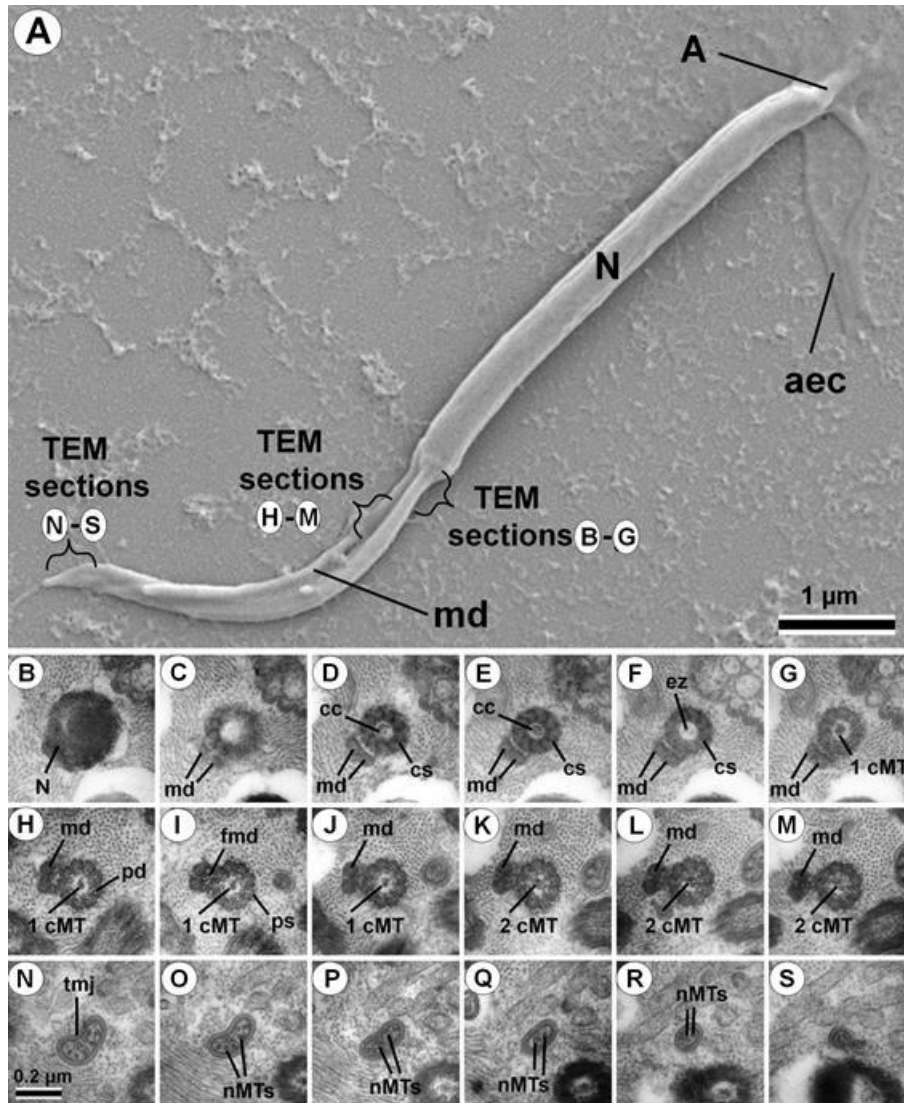


Figure S4. General structure of *Cotesia congregata* mature spermatozoa flagellum.

(A) – scanning electron microscopy photo of the sperm on the surface of glass, level of ultrathin cross sections (B-S) observed using transmission electron microscopy are shown; (B-G) - region from the nucleus to the beginning of first central MT appearance with “cogwheel structure”; (H-M) – region from the beginning of first central MT appearance to the beginning of second central MT appearance; (N-S) – terminal part of flagellum. A – acrosome; aec - acrosomal extracellular coat; cc – central column of “cogwheel structure”; cs – “cogwheel structure” with 9 prongs; ez – “empty zone” between central column of “cogwheel structure” and the beginning of first central MT; fmd – foot of mitochondrial derivates; md – mitochondrial derivates; N – nucleus; nMTs - non-organized MT of the terminal part of the flagellum; pd – peripheral doublet of MTs; ps – peripheral singlet of MTs; tmj – terminal membrane jacket; 1 cMT – one central MT; 2 cMT – two central MT. Transmission electron microscopy. View from the proximal end of centriole. Scale bar: a - 1 μm , b-s - 0.2 μm . From Uzbekov et al., 2018, with small modifications.

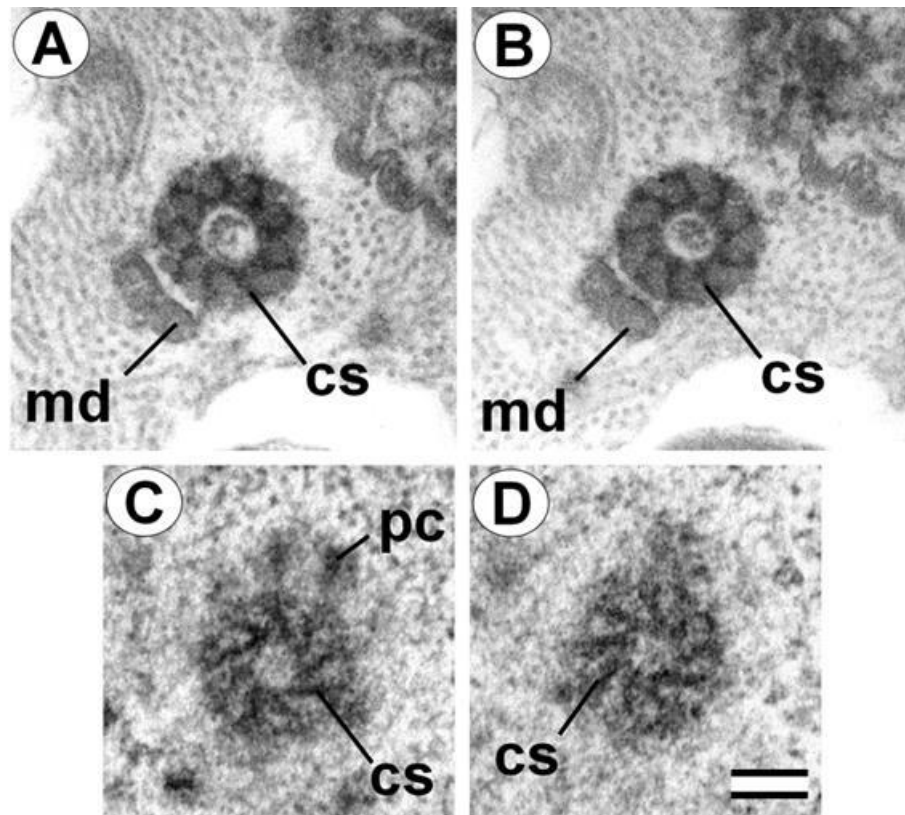


Figure S5. Cogwheel structure in *Cotesia congregata* spermatozoa (A, B) and in *Anisopteromalus calandrae* larvae somatic cells (C, D). cs – “cogwheel structure” with 9 prongs; md – mitochondrial derivatives; pc – pro-centriole. Transmission electron microscopy. View from the proximal end of centriole. Scale bar 100 nm. From Uzbekov et al., 2018, with small modifications.

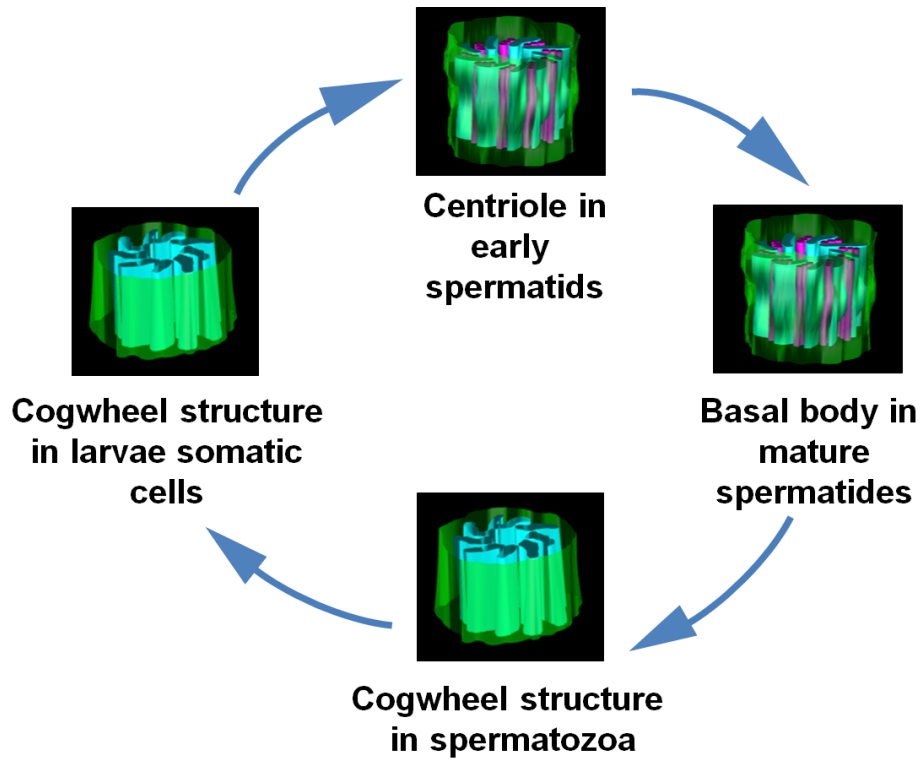


Figure S6. Hypothetical scheme of centriole – basal body - cogwheel structure mutual transformations during wasps living cycle. From Uzbekov et al., 2018.