

P048*Transport of vitellogenin in the ovary of social Hymenoptera*

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Vitellogenins are the major yolk proteins, synthesized in the fat body, released into the hemolymph and transferred to developing oocytes. To be endocytosed for oocytes, vitellogenin should cross the follicular epithelium barrier surrounding the oocyte. However, the mechanisms by which this protein crosses through the follicular cell layer are still poorly understood. This study compared the routes for transporting vitellogenin into the oocyte in social Hymenoptera represented by bees *Apis mellifera* and *Melipona quadrifasciata*, wasp *Mischocyttarus cassununga* and ant *Pachycondila curvinodis*. Ovaries were submitted to immunocytochemistry with antibody against vitellogenin. In the vitellogenic oocytes of all species, vitellogenin was detected into follicle cells, perivitellinic space and oocytes, indicating a transcellular route until the perivitellinic space. Actin filaments undergo rearrangement in response to vitellogenin transport in the vitellogenic follicles. In vitellogenic follicles of *A. mellifera* and *M. cassununga* there is accumulation of granular material between the peritoneal sheath and the base of the follicular epithelium. Septate junctions occur near to the apical region of follicle cells, resulting in a barrier to the movement of substances in the intercellular space. The vitellogenin in the follicular cells occurs into a membrane reticular system. In the ovary of social Hymenoptera, vitellogenin is initially carried by intercellular spaces, which dilate due to the rearrangement of actin filaments, until the median apical portion, then, following a transcellular route to the perivitellinic space. Supported by FAPEMIG, CNPq and CAPES.