# Improvement of Techniques for Age Grading Hematophagous Insects: Ovarian Oil-Injection and Ovariolar Separation Techniques

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Abstract: After injection of oil into the oviduct of hematophagous Diptera, the ovarioles become completely separated from each other, allowing examination of a large number of undamaged ovarioles, an important advantage over other techniques for accurately determining the physiological age of mosquitoes. The technique has been simplified and improved, especially by using a sodium chloride-glycerol-formaldehyde mixture for mounting preparations, which are more convenient and permanent for examination of the ovarioles. The difficulties of using the technique, their possible causes, and possibilities for overcoming them are described. Similar results can be obtained with an alternative technique, the ovariolar separation technique, using strongly diluted Carnoys solution, which leaves ovaries in a fixed condition. Both techniques can be used for several hematophagous dipteran groups.

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