Application of the Ovarian Oil Injection and Ovariolar Separation Techniques for Age Grading Hematophagous Diptera

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Abstract: The ovarian oil injection and ovariolar separation techniques were applied to determine the physiological age of species of the 3 dipteran families Culicidae, Simuliidae, and Tabanidae. The presence of a granular basal body (a granular area in the calyx wall within the ovariolar sheath) indicates at least 1 egg laying; that is, it can be used to separate parous from nulliparous females, which possess no granular basal body. In parous females, the number of ovipositions can be determined accurately by counting the number of dilatations in the diagnostic ovarioles. An egg sac, when present, indicates only the current egg laying. A diagram for age grading using the technique is presented and discussed.

Author Keywords: Age grading; Dilatations; Granular basal body; Hematophagous Diptera; Ovarian oil injection technique; Ovariolar separation technique

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