

EMILY SETSER, and JAMES JOY, Department of Biological Sciences, Marshall University, Huntington, WV, 25755. Putative Sensory Structures Associated with the Food Canal of *Hybomitra difficilis* (Diptera: Tabanidae).

The feeding tube of *Hybomitra difficilis* is made up of a short distal vestibule followed by a food canal that leads to the cibarium; the two regions demarcated by the vestibule/food canal junction. Two pairs of sensilla were consistently observed in the vestibular walls, the first pair of basiconic design in the mid-vestibular region, and the latter pair of setiform design at the base of the vestibule. Food canal sensilla, which varied from 45 to 73 ( $n = 20$ ; mean = 50.15;  $\pm 1$  SD = 10.02), were aggregated in the distal and distal median regions of the food canal, with relatively few sensilla observed in the proximal food canal region. This aggregation was significant ( $X^2 = 261.05$ ;  $P < 0.0001$ ), leading to rejection of the null hypothesis that sensilla were evenly distributed throughout the length of the food canal. Food canal sensilla were of the setiform or trichite type, with the exception of a single basiconic sensillum in each wall of the food canal of every fly examined. All but one basiconic sensilla were located in the distal-most region of the food canal. While basiconic sensilla varied in position (i.e., distance) from the vestibule/food canal junction, they were significantly aggregated ( $X^2 = 12.38$ ;  $P < 0.0062$ ) in the two median sections of the distal canal region, thus leading to the rejection of  $H_0$  that basiconic sensilla were evenly distributed in subdivisions (i.e., sections) of the distal food canal region.