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between the number of tarsal receptors removed and the degree of antennal response. These results show that extreme caution is necessary in interpreting negative results in behavioral studies on location of receptors and that electrophysiological methods, which can be used to discover potential receptors, must be supported by tests with living animals to discover the actual behavioral results of stimulation of the receptors.

### **Reactions of the Spider, *Araneus Cavaticus*, To High Intensity Sounds**

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*Araneus cavaticus*, an orb-weaving spider, which is very common under the eaves of the laboratory buildings, responds to high intensity (95-110 db) sounds from about 150 - 2000 c.p.s. by thrusting out the front legs. This reaction has been described previously for other species, and araneologists have generally agreed that it results from stimulation by vibrations of the web in the sound field. This was shown to be false by experiments in which the resonant properties of the webs were altered without affecting the thresholds of response and by tests with spiders removed entirely from their webs and fastened onto wax blocks without affecting the response. Furthermore, when the web itself was vibrated, without airborne sound being present, an entirely different reaction was elicited. The receptors involved are fine hairs on the bodies of the spiders. These are sensitive to air currents, and the passage of a continuous air-current over the body of a spider abolishes the response to sounds. The response seems, therefore, to be the result of the movements of the hairs by the high velocity movements of air particles in the high intensity sound fields. A review of the past work shows that this interpretation resolves the differences between the seemingly contradictory observation made previously. It is probable that sounds of such high intensities have little biological significance for these spiders.

### **Field Studies on Acoustical Behavior of Certain Chironomidae and Culicidae**

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For three successive summers, 1955-57, attempts have been made to use recorded wing sounds and various types of artificial sounds to attract or repel mosquitoes, chiefly *Aedes vexans* and *A. stimulans*, in the field. The results have been uniformly negative for either males or females.