

## Research Reports: 1955

### **The Loci of Contact Chemoreceptors Involved in Feeding Reactions of Certain Lepidoptera**

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Four species of butterflies, *Cercyonis pegala*, *Lethe eurydice*, *Speyeria cybele*, and *Limenitis arthemis* and two species of moths, *Ctenucha virginica* and *Scepsis fulvicollis* were tested to discover the location of contact chemoreceptors mediating feeding responses. The animals were mounted alive by fastening the wings in paraffin on the ends of glass rods and sugar solutions brought to suspected loci of contact chemoreceptors on brushes or glass microneedles. Parts thus found to possess the receptors were removed and the animals retested. The receptors are present on the tarsi and proboscis in all species. In *Scepsis*, *Ctenucha*, and *Cercyonis* the receptors on the proboscis are near the tip and are large and of a peculiar structure. Removal of all the legs in *Scepsis* renders the animals receptive to contact chemical stimulation by the antennae, whereas they are not so with legs. These moths represent exceptions to the usual situation in having tarsal receptors. This is probably related to their day-flying habits and feeding on nectar.

### **Vascular Supply of the Brain in Cretinoid Rats\***

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The nature, symptoms and course of pathologic changes observed in certain human neurological diseases suggest a developmental study of the nervous system as a possible approach which may contribute to an understanding of the etiology of some of these diseases. The experiments to be reported here are concerned with a study of the development of the vascular supply of the cerebral cortex of normal and cretinoid rats, and an investigation of the efficiency of the blood brain barrier in normal and cretinoid rats.

Male and female rats of the Wistar Strain were used. Thyroidectomy was performed at birth by injection of 200 microcuries of  $I^{131}$ .

For the demonstration of vascular development of the cerebral cortex, animals were sacrificed at 5 day intervals from 1-35 days of age postnatally. Their hemispheres were removed and fixed in chilled absolute alcohol. Gomori's method for the demonstration of alkaline phosphatase in endothel-

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