

GOTTFRIED S. FRAENKEL

(1901 - 1984)

Field: Biology

Subject: Insect physiology

Nationality: German

ENTOMOLOGIST
of the
MONTH

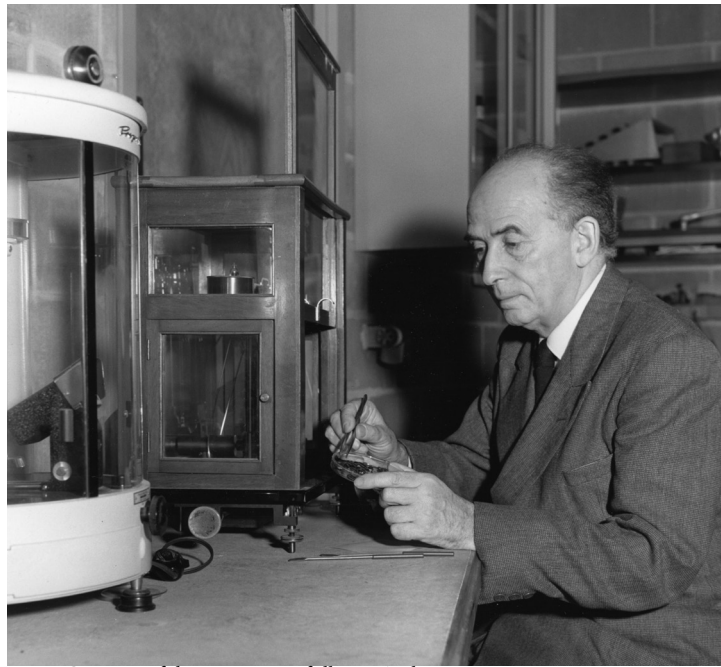
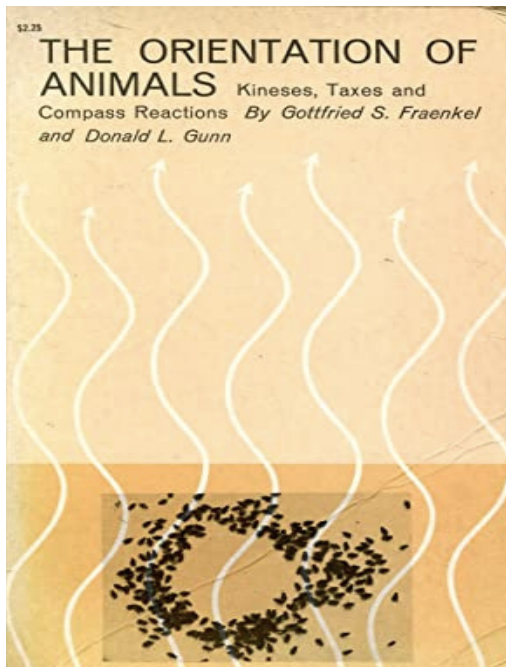


Image Courtesy of the University of Illinois Archives

Gottfried S. Fraenkel is renowned for his work on insect physiology, nutrition, endocrinology, and insect-plant interactions. Born in Munich, Germany, Fraenkel earned his doctorate in Zoology at the University of Munich in 1925. In 1928, Fraenkel accepted a position in the Zoology laboratory at Hebrew University in Jerusalem, where he worked with the British Department of Agriculture to respond to a severe locust invasion in Palestine. He returned to Germany in 1932, but emigrated to Great Britain shortly thereafter due to the Nazi rise in Germany. Fraenkel joined the University College, London, in 1933. Here he studied insect nutrition and physiology, which led to the discovery of the hormone responsible for insect metamorphosis (ecdysone), which is studied widely to date. This discovery countered prevailing beliefs regarding 1) the very existence of insect hormones and 2) the various forces driving insect pupation. In 1947, Fraenkel left Europe for a position at the University of Minnesota and later at the University of Illinois (1948), where he was among the first to explore the role of plant secondary compounds in shaping plant-insect interactions. He retired in 1972 as an emeritus professor at the University of Illinois but continued his research work until his death in 1984.

References:

- Fraenkel, G. S. (1959). The Raison d'Être of Secondary Plant Substances: These odd chemicals arose as a means of protecting plants from insects and now guide insects to food. *Science*, 129(3361), 1466-1470.
- Dentinger, R. M. (2017). From "Actual Forces" to "Token Stimuli" Gottfried S. Fraenkel and the Evolutionary "Raison d'Être" of Plant Molecules, 1930s–1960s. *Historical Studies in the Natural Sciences*, 47(2), 127-163.
- This factsheet was produced by Sukhman Singh, graduate student in Department of Entomology, Penn State.

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