

HOST-FINDING OF THE BLOODSUCKING BUG  
*TRIATOMA INFESTANS* (HEMIPTERA: REDUVIIDAE),  
A VECTOR OF CHAGAS' DISEASE: OBSERVATIONS  
UNDER CONDITIONS RESEMBLING  
THE NATURAL ENVIRONMENT

A. M. ROSE, J. BOECKH

Institut für Zoologie, Universität Regensburg, D-93040 Regensburg, Germany

To study the host-finding behavior of *Triatoma infestans* (Klug) in an environment resembling the original habitat, an enclosure of  $2 \times 2 \times 1.5 \text{ m}^3$  was built. The floor contained a large opening covered with a mosquito net. Several populations of up to 60 5<sup>th</sup> instars of *T. infestans* were introduced into the enclosure. The bugs were free to run all around the enclosure. A cardboard refuge near the ceiling offered shelter. A dark-light regime of 8½-14½ hours was established with two additional half hours of 'dusk' and 'dawn'. Red light was present 24 hours. Test stimuli were introduced into the enclosure from 50cm beneath the floor through the mosquito net. The refuge and the second floor were video-taped during the scotophase.

With no stimuli present, not more than 15% of the insects became active and left the refuge, most of them during the first half of the night. The majority of these active animals returned to the refuge in the second half of the night.

A human being sleeping beneath the mosquito net activated up to 80% of the insects, mostly within the first 3 hours after the human entered the enclosure. Up to 50% of the complete population gathered at the host. About half of these insects were counted above and near the head, and a quarter each above and near the torso and legs. The majority of the activated bugs returned to the refuge within the last hour of the night and during 'dusk', even when the human was still present.

Experiments where human breath was introduced into the enclosure indicate that breath plays the major role both in the activation and the attraction of the bugs. Odors emitted by the rest of the body are of minor importance.

A combination of a 30-liter water-container (with body-temperature) and a 4% mixture of CO<sub>2</sub> and air (with the temperature, humidity, quantity, and rhythm of a sleeping human's breath) activated up to 50% of insects. Up to 25% of the complete population gathered above and near the stimulus-source.

The attractiveness was not increased by adding fresh human urine or a skin-extract that is highly attractive to the mosquito *Aedes aegypti* (supplied by M.Geier, University of Regensburg).