THE BLOODSUCKING CONE-NOSE, OR "BIG BEDBUG,"
TRIATOMA SANGUISUGA (LECONTE), IN AN
OKLAHOMA CITY HOUSEHOLD

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A report of an attack by "a curious bug" came to the attention of the
writer on June 13, 1947, while on duty at the State Department of Health.
The bug was received at the State Laboratory from a residence in northwest
Oklahoma City where it had bitten one of the occupants. The specimen was

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States Public Health Service.
crushed, but was easily recognizable as an engorged female conenose bug, Triatoma sanguisuga (Leconte), sometimes called the "big bedbug" in southwestern United States. This species and other bloodsucking conenoses (Hemiptera: Reduviidae) are of demonstrated public-health importance, and the case seemed worthy of investigation.

The writer was cordially received by a family of three who were at their wits' end to account for a series of visitations by large bloodsucking bugs. The daughter, apparently of late teen age, had been a victim on several occasions, including this most recent attack. The bites numbered a half-dozen or more, distributed irregularly upon her shoulder and arm. In accordance with the usual effective parasitism of Triatoma bugs, she had been bitten several times before awakening, and this was also the case on previous attacks. However, the bites were later a source of some irritation to her, burning and itching, although the total effects were probably aggravated by her mental reaction. Each bite was plainly marked by local swelling and redness, and she had sought the advice of a physician who prescribed a soothing lotion. The more obvious places of concealment about the premises had been searched repeatedly by the family, and an inspection was made by the writer, but no additional specimens of the bugs could be found.

Summer field duties interrupted further consideration of the problem until the fall, when it was disclosed that another attack by a large bloodsucking bug had occurred in midsommer, but the specimen had been destroyed. Subsequent to this report, the writer and Mr. Alex D. Burke of Communicable Disease Center Activities, State Department of Health, explored the premises in November 1947 without discovering any specimens of the bugs. However, the history of the attacks was again discussed in some detail, confirming a growing opinion that the situation was one to have delighted the gifted private investigator from Baker Street.

Attacks had occurred in 1946 at least on two remembered occasions in late spring, followed by another attack after an interval of several weeks. This pattern of recurrence was almost exactly duplicated in 1947, with the first two definite attacks occurring in late May and early June, and the last one in midsommer (probably late July or early August, but the exact date could not be established). On each occasion a large engorged bug (said to be exactly like the one identified in the laboratory) was discovered immediately after the attack, resting on the person or the bed; however, all specimens except the one sent to the laboratory were destroyed or lost. The attacks were nocturnal, except one morning visit when the victim was napping on a divan. The bites were always several in number, on portions of the limbs and body exposed in sleep, and were recalled as frequently appearing in a more or less well-spaced line. The daughter was peculiarly the sole victim until her departure early in the summer of 1947, after which her mother suffered the midsommer attack. The local effects on the daughter were more severe than on the mother.

When Usinger's (1944) manual on the Triatominae was consulted for determination of the one specimen obtained, it was puzzling to discover that the species in hand seemed a variety far out of its normal range. This was Triatoma sanguisuga texana Usinger, described from the arid Rio Grande region of southwest Texas. A tempting solution for this distributional inconsistency was then proposed by detailed consideration of the situation at the residence where the attacks occurred.

The victimized family occupied one-half of a small duplex, having three ground-floor rooms and a glassed-in sleeping porch. Attacks by the bloodsucking-
ing bugs occurred on the porch, and in the front room and a middle room, as
the family shifted sleeping locations. The other half of the duplex was occupied
by a family of traveling entertainers who used the attic for storage. The en-
tertainers had made regular trips into the areas where the texana variety of
Triatoma sanguisuga is an established native. It was easily conceivable that
the specimen examined might represent an introduced variety which smugged
its way northward in the luggage stored in the attic after each trip. A ceiling
opening to accommodate sliding doors might have provided access from the attic
to the rooms where the attacks occurred. However, the travelers denied any
experience with Triatoma bugs. Whether the suggested explanation is true or
not, the complexity of the possible problems involving distribution and attack
by Triatoma bugs is emphasized. Incidentally, a nocturnal attack on a young
boy by a large bloodsucking bug was described to the writer on June 19 in
Muskogee, the description quite recognizably fitting a Triatoma and suggesting
the need for further studies on the occurrence of these bugs in Oklahoma
households.

Triatoma sanguisuga and other bloodsucking conenoses have long been
known to carry the causative organisms of Chagas' disease, Trypanosoma cruzi
Chagas. The transmission of this disease by conenose bugs is well-established
in South and Central America, from Argentina to Mexico. Trypanosoma
cruzi has also been reported from Triatoma bugs in the southwest United
States, notably in Texas by Davis, McGregor, and deShazo (1943), but Chagas'
disease does not appear definitely established in this country. An excellent
summary of the situation has been given by Usinger (1944), with clear, photo-
graphic illustrations of all our native Triatoma bugs and an interesting ac-
count of their biology and public-health significance. Oklahoma is well
within the range of Triatoma sanguisuga (Leconte) and T. lectularius (Stal),
as shown on the generalized distribution map by Usinger.

Triatoma sanguisuga has also been shown by Kitselman and Grundmann
(1940) to be naturally infected with the virus of equine encephalomyelitis in
the region of Manhattan, Kansas. Further studies by Grundmann (1947) in
the same region have given an account of the biology of the bug. The natural
host was found to be the wood rat, Neotoma floridana baileyi Merriam, but it
was observed that the bloodsucking conenose would feed upon almost any
animal, including man and livestock. The suggested wide range of possible
hosts is amply supported by the observations of several authors, as summarized
by Usinger, Grundmann, and others.

Important public-health considerations are aroused by such hematopha-
gous insects as Triatoma sanguisuga which are normally parasites of wild
animals, but not deterred by host preference or specificity from occasional
assaults upon domestic animals and man. This is particularly true when the
insects are known carriers of human and domestic-animal diseases to which
the wild-animal hosts of the insects are also susceptible. Such complex host-
parasite relationships, involving insect and wild-animal reservoirs of disease,
are responsible for some of the most-difficult problems in preventive medi-
cine and public health. These interrelationships are in part established for
Chagas' disease and equine encephalomyelitis, with Triatoma sanguisuga fea-
tured as one important vector capable of bringing these diseases from hidden
reservoirs into the medical and veterinary scene.

LITERATURE CITED

Davis, D. J., T. McGregor, and T. deShazo. 1943. Triatoma sanguisuga (Le-
conte) and Triatoma ambigua Neiva as natural carriers of Trypanosoma

Grundmann, A. W. 1947. Studies on the biology of Triatoma sanguisuga (Le-

Kitselman, C. H., and A. W. Grundmann. 1940. Equine encephalomyelitis

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