NOTES ON THE FEEDING HABITS OF *Aedes sollicitans*
IN THE CHINCOTEAGUE-ASSATEAGUE ISLAND
AREA OF VIRGINIA

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During 1962, as part of a study of the ecology of equine encephalitis in the Assateague-Chincoteague Island area of Virginia, 93,874 mosquitoes were collected for virus isolation studies. Approximately 85 percent of the mosquitoes in these collections were *Aedes sollicitans* (Walker). As part of a study of the vector potential of this species, 243 freshly engorged *A. sollicitans*, collected from a variety of sites, were tested by means of the precipitation test to determine the sources of their blood meals.

The mosquitoes covered in this report were collected from light and CO₂ traps, by sweeping in salt marshes and by aspiration from personnel wearing heavy clothing. These collections were made several times weekly between May and October. The gut contents of the engorged mosquitoes were expressed onto filter paper and each smear labeled as to species, date, location and method of collection. Several smears were made on each paper, and when full, the filter papers were stored in petri dishes and placed in a petri dish can until the end of the collecting season. A supply of silica gel was placed in the can in order to keep the smears dry.

Antisera against human, horse, deer, rodent (Norway rat) raccoon and bird (chicken) sera were prepared by the alum-precipitation method of Weitz (1952). Titters of the various antisera ranged from 8,000 to 12,000 when tested against...
homologous sera. The anti-deer serum reacted with both cow and deer bloods.
For extraction, each smear was placed in a Wasserman tube with 1 ml of physiologi-
Saline and allowed to extract overnight at 4°C. Each day 60–80 smears
were tested. With each test, 7 control smears, consisting of gut smears from
mosquitoes which had fed on cattle, horse, chicken, guinea pig, rabbit, mouse,
and human blood, respectively, were tested. The antisera were diluted 1 to 5
with physiological saline and placed in disposable precipitin tubes in the amount
of 0.05 ml per tube. The saline-serum extracts were then laid over the antisera,
also in the amount of 0.05 ml per tube. The tubes were observed for the precipitin
ring reaction after 30 minutes and again after 60 minutes.

Of the 243 smears from A. sollicitans, 18 were negative for the antisera tested. The remaining 225 smears (see table) reacted with one of the antisera tested. One
smear reacted with both anti-human and anti-deer sera. None of the smears tested reacted with anti-raccoon serum, although the anti-raccoon sera did react with the control smears from mosquitoes fed on laboratory mice. The largest number of the A. sollicitans (140 or 60% of the positive reactions) reacted with the anti-
horse sera. The second largest number of positive reactions (41 or 18%) were with
the anti-deer serum. Of the remaining 35

<table>
<thead>
<tr>
<th>Antiserum</th>
<th>Positive reactions</th>
<th>Percent positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-horse</td>
<td>140/225</td>
<td>66</td>
</tr>
<tr>
<td>Anti-deer</td>
<td>41/225</td>
<td>18</td>
</tr>
<tr>
<td>Anti-human</td>
<td>27/225</td>
<td>12</td>
</tr>
<tr>
<td>Anti-bird (chicken)</td>
<td>5/225</td>
<td>2</td>
</tr>
<tr>
<td>Anti-raccoon</td>
<td>3/225</td>
<td>1</td>
</tr>
<tr>
<td>Anti-rat</td>
<td>0/225</td>
<td>0</td>
</tr>
</tbody>
</table>

smears tested, 27 (12%) reacted with
anti-human serum, 5 (2%) with anti-bird
serum, 3 (1%) with anti-raccoon serum.

On the basis of these tests, it would seem that in the Chincoteague-Assateague Island area of Virginia, A. sollicitans feeds most often on horses. Since there is a
large population of wild ponies on Assa-
tague, as well as several captive herds on
Chincoteague, this animal is a readily
available host. They apparently feed less
frequently on deer and/or cattle, both of
which are also present in large numbers in
the study area. No evidence of A. sollicitans feeding on rodents was ob-

References Cited